DECEMBER, 1954

Industrial FINISHING

Published Monthly in the Interest of Product Cleaning and Painting by Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

A Safe Sign to Follow

AT RELIANCE, a thorough analysis of all factors involved in any finishing problem is a prerequisite to the formulation of the proper materials to be used. Reliance manufactures "tailor-made" Stains, Fillers, Lacquers, Varnishes, Primers, Undercoats, Enamels and Special Coatings for every known surface, to be applied by spraying, dipping, flowing, roller coating — air dried or baked. May we have the pleasure of serving you?

RELIANCE VARNISH COMPANY
Incorporated
Affiliated Factories in
LOUISVILLE, KY.
MONEVILLE, N. C. BRIDGEPORT, CONN. CHICAGO, ILL. LOS ANGELES, CALIF.

YOU HAVE TO REALLY PUT YOUR BACK INTO IT!

Yes, it takes a lot of doing to damage a steel partition protected with finishes by Interchemical.

Movable steel partitions are subject to damage by impact and abrasion during relocation plus the never-ending daily exposure to perspiration, grime and chance scuffing from thousands of passers-by. Thus they require a finish that is tough, adherent, resistant to marring and one that can be restored to its original "new look" by a low cost, soap-and-water beauty treatment.

Leading designers and fabricators of building interiors specify Interchemical finishes because they provide the toughness and durability to withstand severe abuse; yet they add beauty to the finest executive suite.

For a lifetime of customer satisfaction, switch to . . .

IC STEEL PARTITION FINISHES

Interchemical Corporation

Finishes Division

FACTORIES: CHICAGO, ILL. • CINCINNATI, OHIO • ELIZABETH, N. J.
LOS ANGELES, CAL. • NEWARK, N. J. • MEXICO CITY, MEX.

In Canada, IC products are sold by AULCRAFT PAINTS LTD., Toronto, Ont., under its trademarks.

NEW!

NCP

NCP Water White Lacquer #51 *PROVES* Amazing Color Retention In Actual Tests!

We took two raw wood panels and applied a white undercoat. We coated the first panel completely with another leading Water White Lacquer, the second completely with NCP Water White Lacquer #51. We placed both panels in the sunlight; the top half of each panel was covered with aluminum foil to prevent exposure to light, leaving the bottom half open to exposure. Here's what happened:

This half coated with other leading Water White lacquer and not exposed to light.

This half coated with other leading Water White lacquer and EXPOSED to direct sunlight. **Yellow discoloration occurs.**

This half coated with NCP Water White Lacquer #51 and not exposed to light.

This half coated with NCP Water White Lacquer #51 and EXPOSED to Direct Sunlight. **COLOR RETAINED.**

PROOF! Where New NCP Water White Lacquer #51 is used, Original color is retained; the quality of your product is assured.

To ASSURE MAXIMUM COLOR RETENTION Use NCP Water White Lacquer #51

The National Chemical & Plastics Co.
1422 Philpot Street Baltimore 31, Md.

Write For Details of new improved NCP Water White Lacquer #51.

STEELCASE INC.

gets "Sunshine Styling" from special finishes

Steelcase Inc. adds new saleability to their famous line of office equipment, by offering Sunshine Styling: true colors borrowed from nature. Our styling studio worked with Steelcase in selecting these delicate, natural colors, and our laboratory found the way to reproduce them faithfully in finishes that are durable in use and economical in production.

The Better the Finish, the Better the Buy

GRAND RAPIDS VARNISH CORPORATION

MAKERS OF THE FAMOUS Guardsman® *FINISH AND* Guardsman® *CLEANING POLISH*

GRAND RAPIDS, MICHIGAN

DECEMBER, 1954
Vol. XXXI, No. 2

BPA

A monthly magazine for company executives, production superintendents, process engineers, chemists, purchasing agents, paint shop and finishing department foremen of industrial plants where product surface cleaning and painting are major operations in the manufacture of parts and products of all kinds.

Industrial FINISHING

W. H. ROHR, Editor P. C. BARDIN, Associate Editor

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Contents

Random Comment on the Industrial Scene..... 4
Painting Aluminum Siding..... 24
Finishing Parts for Military Airplanes..... 36
Electro Spray Finishing G.E. Washers and Dryers 48
Fine Furniture Finish Patching Techniques..... 58
Tack-Cloths in Various Types, to Wipe Off Dust 70
Letters from Readers..... 80
Questions and Answers..... 90
Materials; Supplies; Equipment..... 98
Editorial 114
Booklets; Circulars; Catalogs..... 120
Classified Advertising 124
Advertisers Index 127

Screen Process Convention....56
Tips on Touching Up—1....56
DuPont's New Color Laboratory....76
Multicolor Finish Story in Nov. Challenged....96
United Lacquer Enlarges Plant....97
Gauger Is Made Tech. Dir. of Pacific Paint & Varnish Co. 97
Impregnate Al. Castings....107
Flock Coating on Cast Aluminum Parts....108
S-W's "Stir-In" Colors....108
Allow for Pressure Drop in Hose Line....110
Consult the Experts for Production Know-How....111
James B. Day & Co. Announces 2 Important Appointments....112
F. Harrington of Mo. Joins V. J. Dolan & Co....112
Pennsalt Chemicals Acquires Gilron Products....112
New Detrex Plant Going Up in Bowling Green....117
Matching a Paint Sample Better and Cheaper....118
Annual Dinner of Ross 25-year Club....119
Oakite Technical Conferences in N.Y., St. Louis and L.A....121
Cothran Wins Oakite Awards 122
Industrial Management Council Hears About Novelty Finishes....122
J. J. Vaughn Has Charge of Sales for Star Chemical....122
Co-Polymer Chemicals Adds 2 Important Men....122
Andrew Brown Co. Appoints Men for Texas, Okla., Kans....123
Gasway Appoints Vastine....124
Sears 1954 Paint Conference 128

Acceptance under Section 34.64, P. L. & R., authorized

31 THIRTY-FIRST YEAR OF PUBLICATION

Early '55 on Upside. Business men expect a definite upturn for the first quarter of 1955, according to the results of a survey completed recently by the reporting staff of Dun & Bradstreet, Inc. In the survey, 1309 business executives, comprising a random cross-section of the nation's larger and medium-sized manufacturers, wholesalers and retailers, were asked whether their sales, profits, inventories, prices and number of employees are expected to be higher, lower or the same compared with the first quarter of 1954. Manufacturers were asked also to give their expectations as to their new orders.

The survey shows that 56% of the executives look forward to higher sales and 43% expect larger net profits after taxes, comparing the two first quarters. Lower sales are anticipated by 13% of the business men and smaller net profits are expected by 12%. No change in the direction of sales is expected by 31% of the concerns surveyed, and 45% are of the opinion that the level of their earnings will be about the same.

Majority expectations as to selling prices in the first quarter of 1955 are heavily of the view that prices will show no change, with 12% expecting that prices will be higher, 76% that they will be the same, and 12% anticipating lower prices.

While 79% of the business men interviewed expect to operate with the same number of employees, the 14% who believe they will be adding employees outnumber those who expect to reduce their employment levels by two to one.

A new vinyl latex exterior masonry paint goes on so easily and dries so quickly that even the little woman can apply it with roller or brush. Called "Spred Glide-On," the new paint is a product of the Glidden Co.

* * *

"Automation"—a word until recently considered by many as too fancy for practical use—has attained acceptance in the lexicon of industry.

A survey conducted among engineers, technicians and industrial executives in ten major industry groups for Minneapolis-Honeywell's Indus-

THIS is IT!!!

DOLVAR

BURN RESISTING

AIR DRY OR BAKE

WATER WHITE

• You will be hearing a lot about this new, outstanding catalyzed, clear synthetic finish for wood. High in solids. It is so tough you can't knock it off with a hammer! A burning cigarette will not even blister or mark it after two or three minutes. Positively will not cold-check, print, soften or pad-mark.

Withstands alcohol, water, nail polish, lacquer thinners, etc.

NON-YELLOWING!!

Order a drum today—with a positive guarantee of satisfaction!

"From the start consider the Finish"

V. J. DOLAN & COMPANY, Inc.

Manufacturers of "Unquestionable Quality"

INDUSTRIAL FINISHES

1830 N. Laramie Ave. Chicago 39, Ill.

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POTTER

TOPS ALL for THINNERS At Lowest Cost

Nobody tops POTTER for highest quality thinners at lowest cost. Add unexcelled service and quick delivery and you've got the reason why we *satisfy*.

How do we do it?

- Specialization—over 29 years experience in making only thinners.
- Large Sales Volume.
- Streamlined Overhead.
- Solvent bought in tank car lots only.

Over 600 Satisfied Users

POTTER'S THINNERS ARE EASY TO TEST. Just mix with your lacquer and observe results. If it mixes all right and dries all right ——— it is *all* right.

We can easily "*tailor make*" special thinners for your difficult applications. Mail the coupon today for FREE sample.

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CORTLAND 1, N. Y.
THINNER SPECIALISTS

Send me a FREE test sample. ☐

The product we make is:_____

We use Lacquer Thinner for:
☐ Spray ☐ Dip ☐ Cleaning ☐ Other_____

We use Lacquer Thinner on:
☐ Metal ☐ Wood ☐ Other_____

We want it to dry:
☐ Fast ☐ Slow ☐ Medium

Name_____

Address_____

City_____ Zone____ State_____

trial Division, found "automation" was the favored word of 82% of all of those questioned when they sought to describe automatically controlled operations.

"Automation," they agreed, signifies "the automatic performance of a controlling function by mechanisms instead of men. This automatic control is obtained through measuring and correcting variables by instruments and mechanisms, with no human intervention" (except, of course, to map the primary course, and when things go wrong). "It is not peculiar to any specific industry."

The study covered more than 400 industrialists, diversified as to industry and geographic area.

* * *

Epon-Resin Based. Two new Epon-resin based paint vehicles designed for interior paints were introduced by Shell Chemical Corporation at the Paint Show in Chicago.

The two vehicles, developed specifically for use in odorless type flat wall paints, are Epon resin "low odor" architectural paint vehicle A-300, and Epon resin "odorless" architectural paint vehicle A-301. These vehicles possess many of the features of conventional Epon resin esters (now widely accepted throughout the coatings industry) and are the result of an intensive research program at Shell laboratories to develop Epon ester paint for architectural use.

* * *

More Construction. The nation's construction industry has plenty of room to go on expanding next year and afterward because today's record-breaking dollar volume of construction activity is still well below the proportions of a speculative boom, it was asserted recently by Dr. George Smith, economist for F. W. Dodge Corporation. [*Continued on page 113*]

☐ Plugged Nozzles

☐ High Maintenance Costs ☐ Clogged Lines

☐ Foaming ☐ High Compound Consumption

☐ Loss of Reclaim ☐ Sludge in Reservoir

☐ Pump Break-downs ☐ Loss of Pressure

☐ Water Breaks

are your spray booths GUILTY of these costly crimes?

get DuBOIS engineered maintenance program

These ten spray booth criminals can be costing you thousands of unnecessary dollars every year. By installing DuBois Engineered Maintenance Program you can put a halt to excess maintenance costs immediately. DuBois' trained, experienced representatives will give your operation a thorough analysis and recommend highly specialized DuBois compounds, such as:

- KLARIFIANTS — water-wash compounds that control overspray.
- FILMITES — coatings for dry areas of spray booths.
- PEEL FILMITE — flame-proof peelable plastic film.
- STRYPP — for periodic purging of old paint deposits in hydraulic system.

Contact DuBois today for details on this complete service.

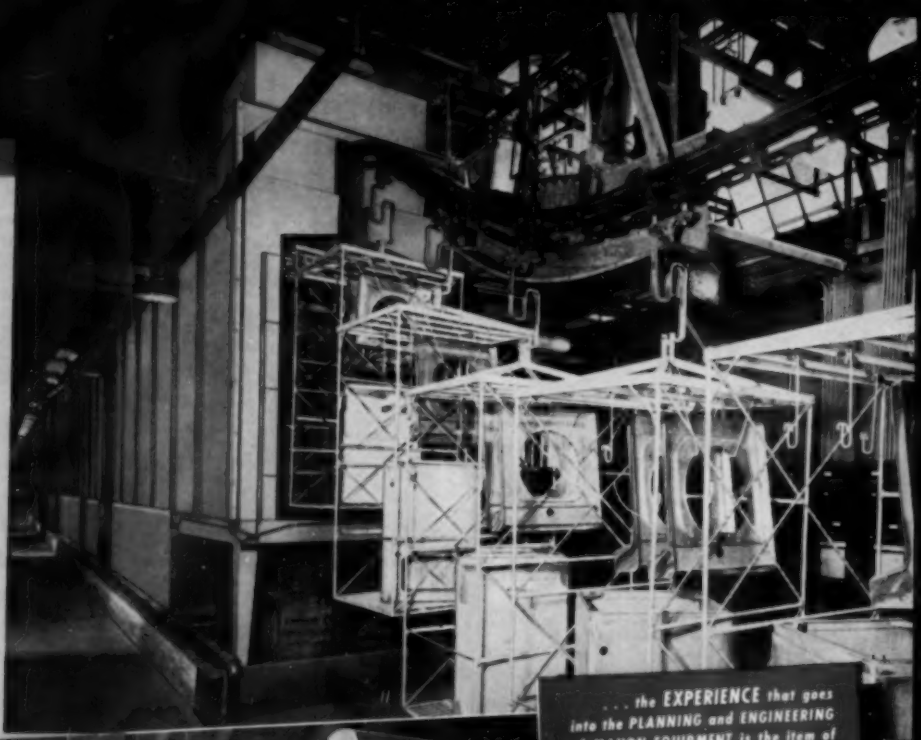
FREE . . . spray booth maintenance check chart. Write for your weekly-monthly program for proper spray booth maintenance.

The DuBOIS Co., Inc. (Dept. F)

Cincinnati 3, Ohio • Los Angeles 33, Calif.

Representatives and warehouses located coast to coast

COMPLE1



. . . the **EXPERIENCE** that goes into the **PLANNING** and **ENGINEERING** of **MAHON EQUIPMENT** is the item of **GREATEST VALUE** to **YOU!**

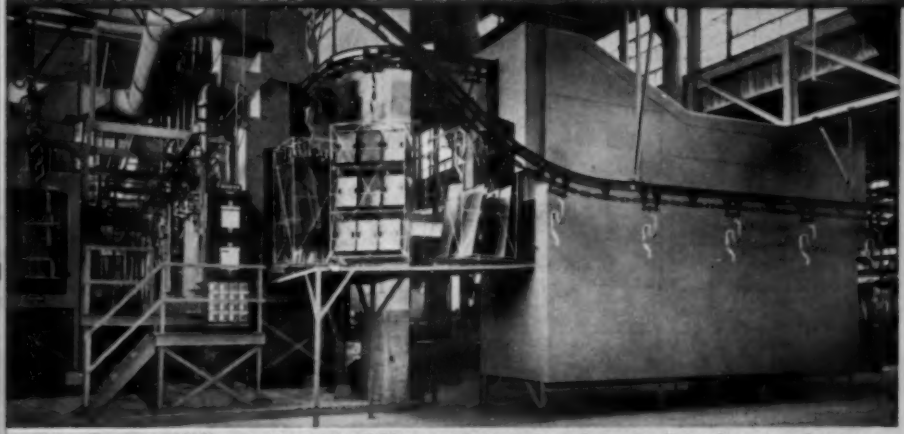
Mahon Cleaning and Pickling Machine Installed in the Plant of a Manufacturer of Porcelain Enameled Kitchen Sinks and other Units of Plumbing Ware.

The Mahon Cleaning and Pickling Machine illustrated above was installed as part of a complete Mahon Finishing System in the plant of one of the world's largest manufacturers of Household Appliances. The three installations illustrated on these pages are representative of others serving various industries engaged in Porcelain Enameling Operations in connection with their products.

M

Finishing SYSTEMS

. . . for ENAMELS • LACQUER • PAINT • VARNISH



Mahon Cleaning and Pickling Machine with Dry-Off Oven Installed in the Plant of a Leading Electric Range Manufacturer.

Now, PICKLING OPERATIONS can be included in your CONVEYORIZED FINISHING SYSTEM!

Pickling operations no longer require a separate room with elaborate ventilating, fume control, and air replacement equipment. Cleaning and Pickling, preparatory to porcelain enameling, can now be done on the same overhead monorail conveyor that carries parts through other processing units of your conveyorized production finishing system. Pickling can be done in one third the time with more uniform results in a modern Mahon conveyorized spray-impingement Pickling Machine. All this is made possible by a Patented Hydro-Hermetic Seal on the Mahon Pickling Machine which effectively seals the top of the processing tunnel and provides positive protection for the conveyor track, trolleys and chain . . . no corrosive fumes can escape to damage conveyor parts. Sixteen of these Mahon Pickling Machines are now in operation in plants where descaling, pickling and rust proofing are necessary phases in the finishing process. Mahon Cleaning and Pickling Machines can be fitted right into your present finishing production system . . . they can be designed to meet any existing layout, processing requirement or production rate. Have a Mahon engineer call and give you complete information . . . and, let him tell you where and how a Mahon Conveyorized Spray Pickling Machine will cut costs in your present setup. See Sweet's Plant Engineering File for other Mahon Industrial Equipment, or write for Catalog A-655.

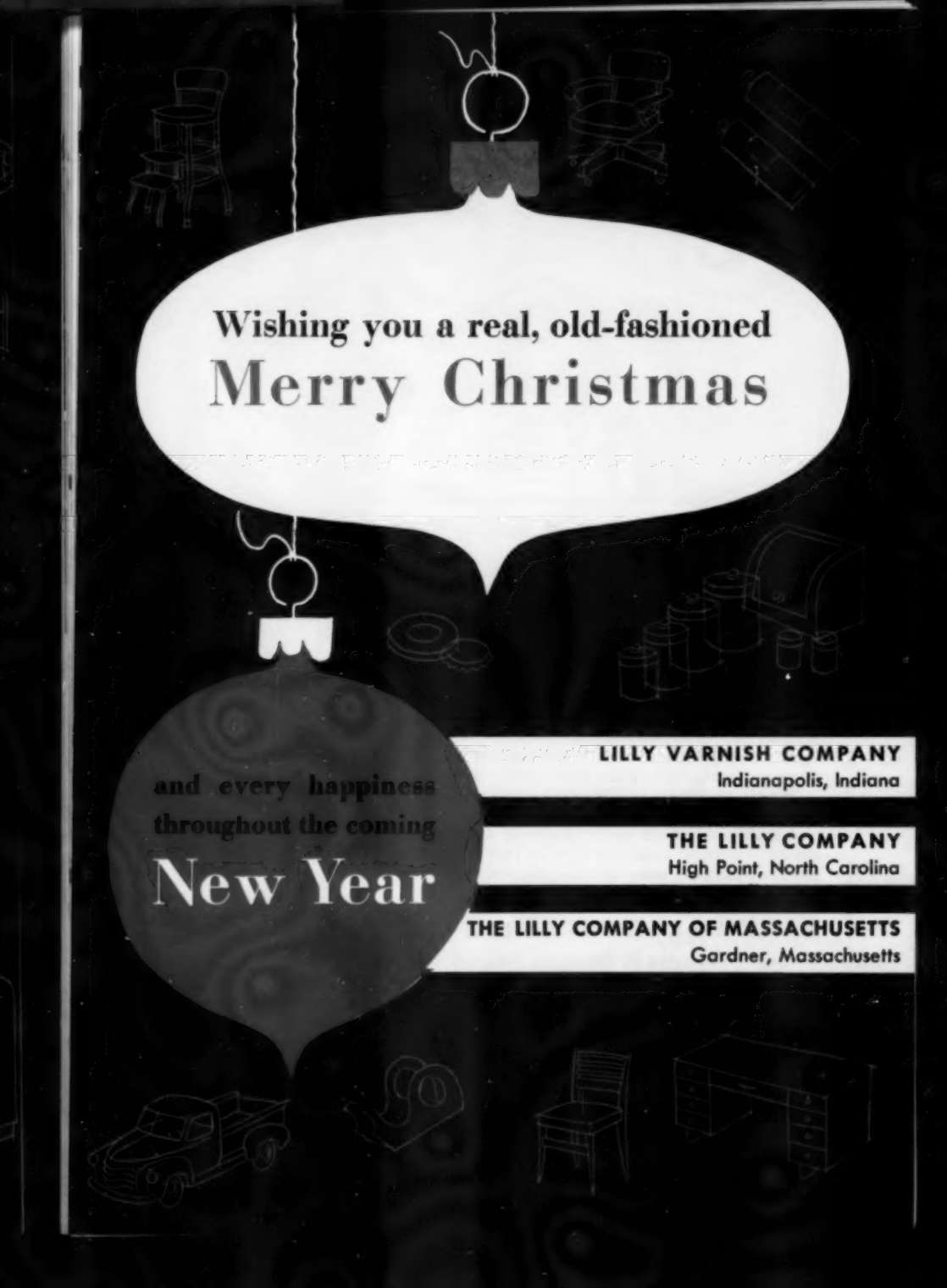
THE R. C. MAHON COMPANY

HOME OFFICE and PLANT, Detroit 34, Mich. • WESTERN SALES DIVISION, Chicago 4, Ill.

Engineers and Manufacturers of Metal Cleaning and Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Spray Booths, Flow and Dip Coaters, Drying and Baking Ovens, and Complete Conveyorized Production Finishing Systems.

MAHON

Instead of talking about
LILLY INDUSTRIAL PRODUCT FINISHES
as we do all other months in our busy,
work-a-day-world, it seems
more appropriate to pause here, at this
twelfth month, and extend to you
this special message


Wishing you a real, old-fashioned
Merry Christmas
and every happiness throughout the coming
New Year
LILLY VARNISH COMPANY
Indianapolis, Indiana
THE LILLY COMPANY
High Point, North Carolina
THE LILLY COMPANY OF MASSACHUSETTS
Gardner, Massachusetts

PRODUCTION INCREASED 150% with DESPATCH FINISHING SYSTEM

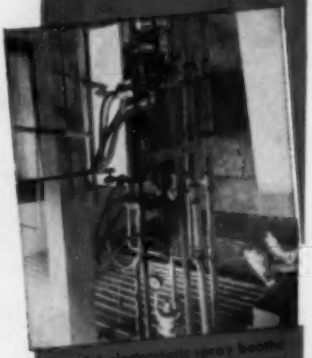
5-stage washer includes: alkali cleaner, hot water rinse, zinc phosphatizing, cold water rinse, chromic phosphoric acid rinse.

Amana

World's Largest Manufacturer of Food Freezers Expands

As part of a major expansion program Amana Refrigeration, Inc., Amana, Iowa, installed a DESPATCH 2-coat, 2-bake electrostatic paint finishing system with a capacity of 400 freezers and 200 room air conditioners on an 8-hour shift. The new streamlined system is credited with increasing Amana's production by 150%, has greatly improved finish quality and has achieved substantial paint savings through more efficient paint application and paint reclamation processes.

Ware travels on a 2700-foot continuous conveyor through 5-stage washer, dry-off oven, prime and finish staggered electrostatic spray booths, prime and finish touch up booths, prime and finish multiple pass bake ovens and inspection area to three assembly lines.



A COMPLETE SYSTEM OR A SINGLE UNIT

Despatch Finishing Systems are designed and built to finish your product better, faster and more economically. You can get a complete system or an individual unit. Write, Wire or Call Dept. E for details.

DESPATCH OVEN COMPANY

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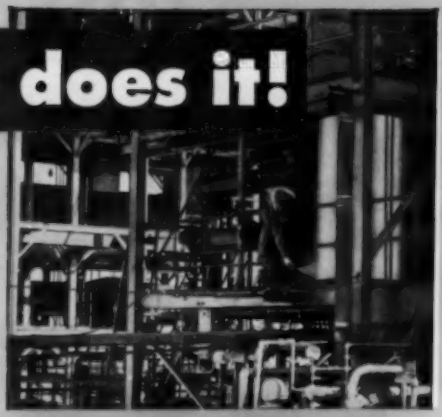
Chicago Office: 4854 N. Broadway

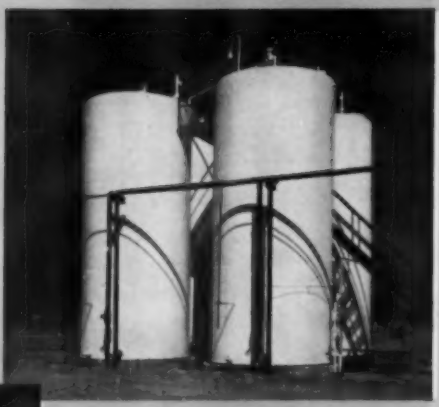
Sales and Service in all Principal Cities

PIONEERS IN ENGINEERING HEAT APPLICATIONS FOR INDUSTRY

EPON® RESIN does it!

New paint lasts years ...resists corrosive spillage at Diamond Alkali plant





HERE'S HOW...

PAINT LEADS a hard life at the amond Alkali Company agricul- al chemicals plant in Houston, xas . . . and no ordinary paint can vive there for long!

A few reasons for paint failure: ocessing vessels and storage tanks e subjected to spillage of chlori- ted hydrocarbons and benzene, d some also to heat. In parts of plant, painted surfaces are ex- sed to the highly corrosive fumes hydrogen chloride and sulfuric id.

In their search to find a tougher, nger lasting paint, Diamond kali maintenance men tried coat- gs of many types, including heavy ty maintenance finishes. Some "washed off" immediately; some lasted 6 to 8 months. Finally, Epon resin coatings based on the XA-200 formulation were tried—and found outstandingly successful.

The Epon cold-cured paint, applied by spraying throughout the entire plant, has been in service for *more than two years with no failure*. Painting costs—for both material and labor—are a mere fraction of what they formerly were, reports Diamond Alkali.

Call on our sales offices for names of suppliers who sell Epon resin coatings for your needs. Write for the full Epon coatings story in the new brochure, "*Planning to Paint a Pyramid?*"

SHELL CHEMICAL CORPORATION

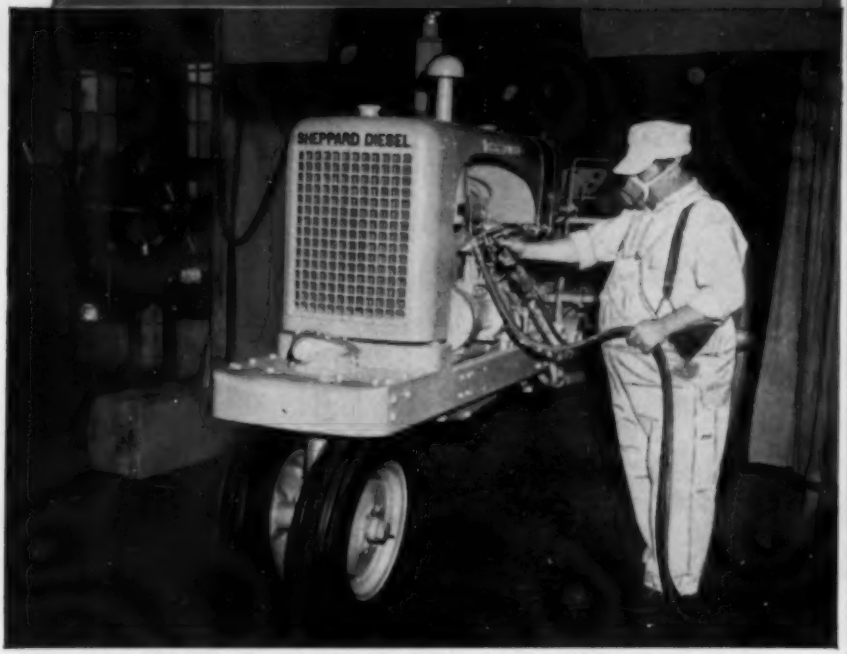
Chemical Partner of Industry and Agriculture

380 Madison Avenue New York 17, New York

Atlanta • Boston • Chicago Cleveland • Detroit • Houston Los Angeles • Newark • New York San Francisco • St. Louis

IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited Toronto • Montreal • Vancouver

Sheppard Diesel



In the R. H. Sheppard plant, Diesel tractors are coated with Pittsburgh's synthetic primer and then re-coated in 30 minutes with Pittsburgh's alkyd enamels which set up so rapidly that trim enamel and decals can be applied one hour later.

PITTSBURGH

PAINTS • GLASS • CHEMICALS • BRUSHES

PITTSBURGH PLATE GLASS

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Farm Tractors *are Finished with Special Pittsburgh Enamels*

Pittsburgh contributes to the eye appeal and long life of many agricultural implements —such as the Diesel farm tractors made by the R. H. Sheppard Company, of Hanover, Pa.—by providing special enamels of unusually high quality for these products.

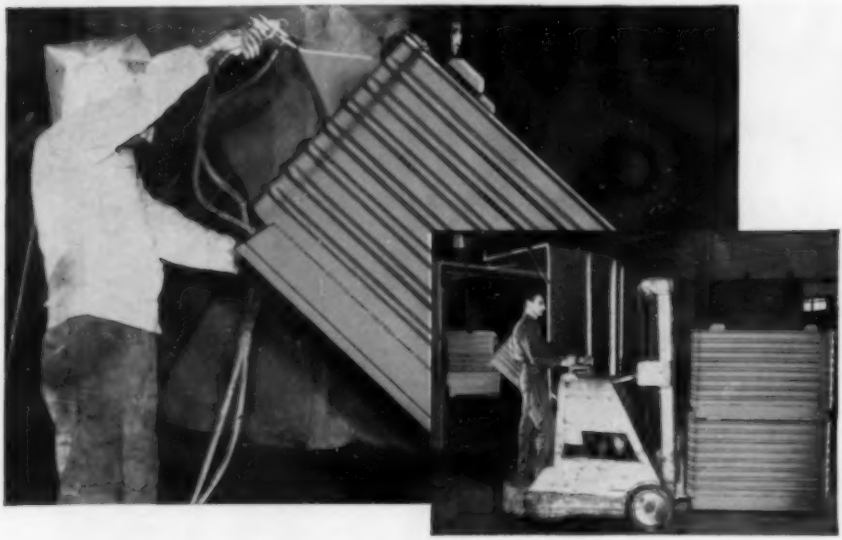
The protective coatings for these tractors must be extra tough and durable. Probably no other type of equipment is subjected to such a wide variety of conditions. These finishes must resist the rigors of severest weather. They must withstand the corrosive effects of fertilizers, manure and spraying compounds.

As the result of working closely with leading producers of farm machinery for many years, Pittsburgh has developed special alkyd synthetic enamels which retain their high gloss and color and are remarkably long-lasting. These finishes can be applied with unusual speed, saving time and money.

Pittsburgh's wide experience in this and many other industrial fields, may be helpful in solving *your* finishing problems. Wire, write or phone the Pittsburgh Paint plant nearest you. We'll be glad to have one of our engineers discuss your requirements with you, without cost or obligation.

PITTSBURGH PLATE GLASS CO., Industrial Paint Div., Pittsburgh, Pa. Factories: Milwaukee, Wis.; Newark, N.J.; Springdale, Pa.; Atlanta, Ga.; Houston, Texas; Torrance, Calif.; Portland, Ore. Ditzler Color Division, Detroit, Michigan. Thresher Paint & Varnish Division, Dayton, Ohio. Forbes Finishes Division, Cleveland, Ohio. M. B. Suydam Division, Pittsburgh, Pennsylvania.

PAINTS
PLASTICS • FIBER GLASS
COMPANY



NOW...sprayed...air-dried...loaded in MINUTES instead of HOURS!

Fast-drying Sherwin-Williams Finish helps solve storage space problem

Long air-drying time caused a storage space problem for Powell Pressed Steel Co., Hubbard, Ohio. A fast, practical answer was found by close teamwork with Sherwin-Williams Industrial Finish Specialists. The new, faster drying finish developed met Powell's requirements for resistance to exterior exposure, machine oils and general rough usage.

Tested and adopted, the new finish solves the problem of storing bulky steel tote boxes after finishing . . . permits loading almost directly, after spraying, into railroad cars for shipment. Where drying formerly required 4 to 8 hours, boxes now are loaded after as short a period as 4 to 8 *minutes* after spraying!

Industry-wide experience in product finishes enables Sherwin-Williams to offer similar help on many related problems of engineering, production or sales. Investigate—without obligation—today! Write: The Sherwin-Williams Co., Industrial Div., Cleveland 1, Ohio.

SHERWIN-WILLIAMS

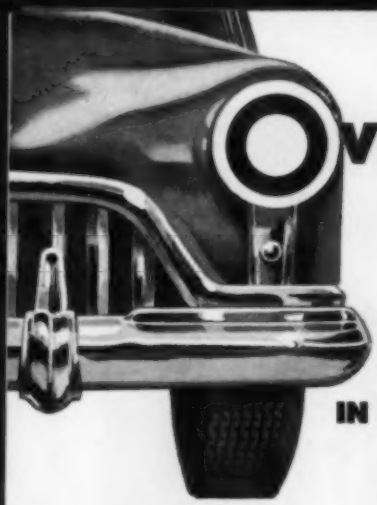
INDUSTRIAL FINISHES

RELATED finishing materials from ONE dependable source!

Many finishing "headaches" that can't be traced to any one material or supplier result from using materials from different sources, in the same system. New ingredients today make it more important than ever to be sure that all materials are completely compatible *and will stay compatible.*

Surest way to avoid such problems is to use *related* finishing materials for the *whole* system, from *one* dependable source. From stain to final coat, Sherwin-Williams Furniture Finishes provide all the materials needed in any system. No question how filler, sealer and top-coats will react with aging and exposure. Relationships are known . . . results assured. And you can also benefit from Sherwin-Williams background and leadership in color. It's well worth checking when styling your line in pace with latest color trends. Contact your S-W Industrial Representative today for recommendations. Call, wire or write: The Sherwin-Williams Co., Gen. Industrial Div., Cleveland, Ohio.

SHERWIN-WILLIAMS INDUSTRIAL FINISHES



OVER 21,000,000 *cfm* IN 21 MONTHS!

MULTI-DUTY AIR FILTERS OVERWHELMING FAVORITE IN AUTOMOTIVE INDUSTRY'S NEW PLANT PROGRAM!

NEW models in automotive manufacturing and assembly plants are featuring *clean air* to insure perfect body finishes, protect precision production operations and provide better working conditions.

Over the past 21 months American Air Filter has supplied this industry with Multi-Duty Filters totaling 21,000,000 cubic feet of air per minute. Such overwhelming product acceptance tells the story of Multi-Duty's high efficiency and dependable, trouble-free performance.

Perfect finishes—with an absolute minimum of rejects and "do-overs"—require clean, dust-free air. The self-cleaning Multi-Duty Filter provides just that . . . automatically and economically. For complete product information, call your local AAF representative or write direct for Bulletin 241.

AAF

herman nelson

American Air Filter

COMPANY, INC.

210 Central Avenue, Louisville 8, Kentucky

American Air Filter of Canada, Ltd., Montreal, P. Q.

Another Reason They'll Buy Your Product . . .

POLYCHROMATIC

Industrial Finishes

FOR METAL • PLASTICS • COMPOSITIONS • WOOD

using REYNOLDS NON-LEAFING ALUMINUM PIGMENTS

WRINKLED

For glare-free surfaces . . . produced during short baking operation . . . opaque enamel base has good defect-hiding properties.

HAMMERED

Achieves the effect of ball peening . . . gives a multi-toned texture . . . conceals minor surface defects.

REGULAR

The most iridescent polychromatic finish . . . either translucent enamel or lacquer may be used as color base.

Specify Reynolds Aluminum Pigments for your polychromatic finishes—Regular, Hammered or Wrinkled—for consistency in color and result and constant high-quality and performance.

Reynolds patented* non-leafing aluminum pigment remains evenly dispersed as the coating sets-up. The aluminum flakes produce depth and iridescence.

Reynolds technicians will work with you and your finishes supplier to achieve the right polychromatic finish for your product.

Reynolds Metals Company, 2533 South Third Street, Louisville 1, Ky.

SEE "Mister Peepers", starring Wally Cox, Sunday nights on NBC-TV.

*U.S. PATENTS 2,309,377 AND 2,293,751; CAN. PATENT 472,680

REYNOLDS ALUMINUM

MODERN DESIGN HAS ALUMINUM FINISHES IN MIND

IS THERE A BETTER WAY TO COAT YOUR PRODUCT?

An Egyptian Industrial Finishes Specialist can help you find it.

Egyptian's outstanding reputation for finding "A BETTER WAY" makes your Egyptian Specialist and the ingenious Lab. Technicians behind him "all star selections" for your product planning team.

Their highly specialized knowledge can help make your product look better...wear better...sell better. Often their suggestions have broken seemingly impossible finishing bottlenecks, appreciably cutting overall finishing costs... they can keep you constantly informed of new finishing techniques and how you can benefit by them ...Your Egyptian Specialist can point out the advantages of the dip, spray, roller coat, tumble, hot spray and electrostatic application methods. He can tell you the required specifications for finishing any Government Product.

If there IS a better way..."Egyptian Finishing Know-How" can help you find it. Invite an Egyptian Industrial Finishes Specialist to call on you today.

EGYPTIAN

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COMPARISON of Ovens at Hotpoint Proves JENSEN PAN-L-HEAT Out-performs the Rest

Six of the seven infrared finishing ovens at Hotpoint's new Refrigerator Plant in Chicago are JENSEN PAN-L-HEAT. There's good reason. Shown below are *some* of the actual figures from a test comparing another well-known oven at Hotpoint. Identical pieces were processed. More facts are available—we will be pleased to send them on request. These facts are the answer to why more people every day are checking JENSEN PAN-L-HEAT before purchasing an oven. Write today for specific data or free brochure.

	JENSEN	OVEN "X"
Power Demand	286 KW	465 KW
Total Time	4 minutes	5¼ minutes
Chain Speed	16 FPM	12 FPM
Work Spacing	56"	72"
Lb. Steel per KW	25	9
Lb. Frit per KW	2.5	1.8
Lb. Water per KW	.63	.71
Total Beneficial Heat (B.T.U.'s)	349,000	509,000
Total Input	980,000	1,600,000
Efficiency	48%	40%
Air Blowoff Required	No	Yes

PAN-L-HEAT Ovens

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ANNOUNCING . . .

a new LOW COST water wash spray booth by Binks

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1. **Fan stays cleaner longer.** Virtually all pigment is removed from exhaust air.
2. **Easy access.** Fan and arrestor plates are reached through doors in back of booth. When booth is installed against a wall, access doors are placed in front and lower section of water curtain is easily removed.
3. **No moisture reaches stacks.** Staggered metal arrestor plates trap moisture entrained in the exhaust air.
4. **Unbroken water curtain.** Binks special clog-proof Dynaprecipator manifold distributes water uniformly.
5. **Double washing.** Paint fumes and overspray must pass through 2 washings before they leave the booth.
6. **Stays clean longer.** The water curtain is constantly flushed.

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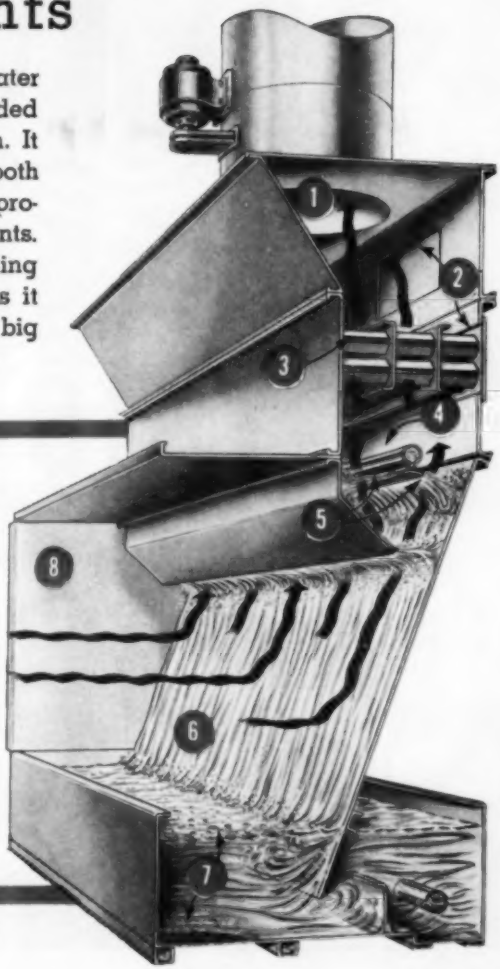
Without obligation a Binks engineer will gladly call at your office to discuss the advantages of this new booth or to help you with spray painting problems of any kind. Just contact your nearest Binks office or write direct.

ASK ABOUT OUR SCHOOL. **A week of training in best finishing methods, equipment selection and maintenance. No charge for tuition. All welcome. Write for class dates and curriculum.**

Ideal for use in most plants

This new low-cost Style D water wash spray booth is recommended for normal industrial production. It supplements the Style DUC booth which is unequalled for heavy production and hard-to-handle paints. But the powerful double washing action of this new booth makes it ideal and fully approved for the big majority of spray painting installations.



7 **Overspray reclaimed.** Overspray is washed into the water pan where it is trapped for easy removal or reclamation. This minimizes paint sludge reaching the circulating pump.

8 **Rigid, long-life construction.** Engineered to give long, trouble-free service.

9 **Economical.** Costs less, uses less electricity, occupies less floor space, requires less maintenance.

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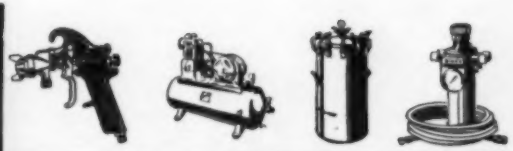

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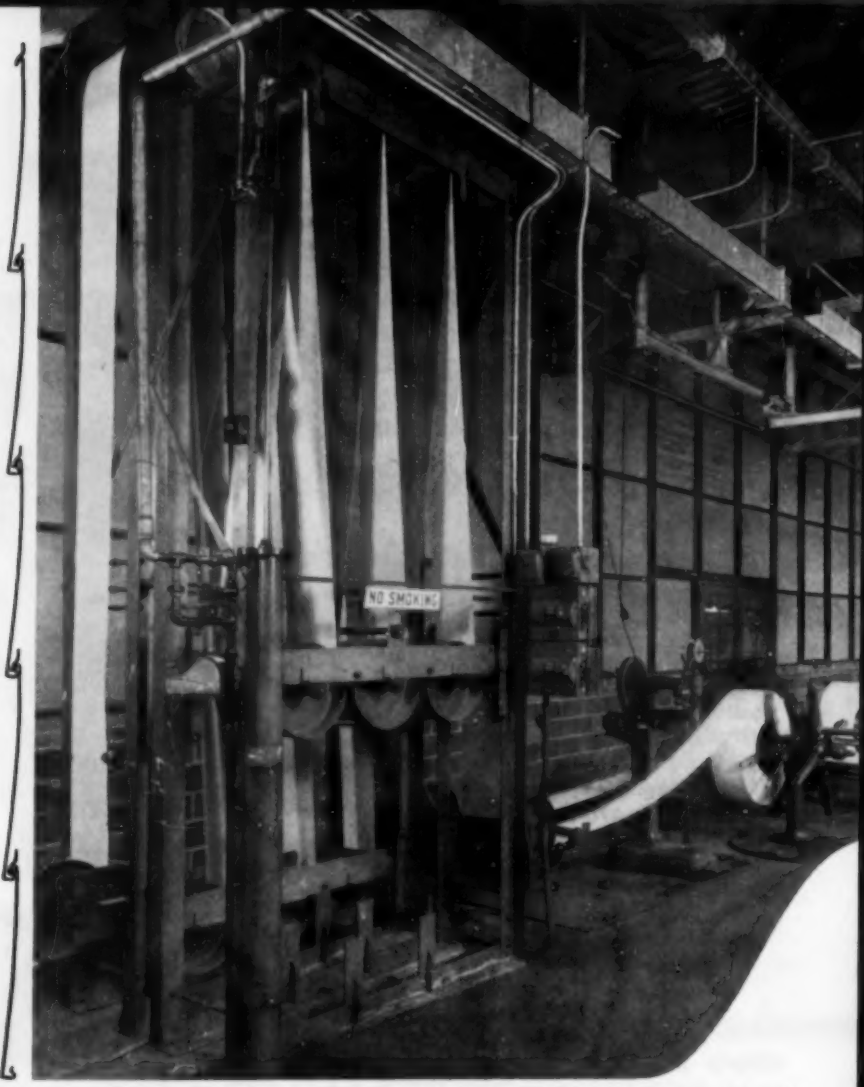


At right are unwinding reels from which two strips of aluminum (side by side) start through the system (moving from right to left). Next is the stapling machine where the end of a strip from a used or unwound coil is stapled to the end of a strip from a full coil just starting to unwind. In left foreground are the accumulators from which strips feed forward continuously, even when an incoming strip is stopped momentarily for stapling ends together.

Drawing at left of picture shows cross section of formed aluminum siding as it interlocks when applied to an outside wall. Notice the sharp bends made in enameled sheets of siding.

Opposite page: Two roller coaters, each having two sets of paint rollers to apply a double coat of enamel on one side of the continuous strip of aluminum feeding through machine.

Painting Aluminum Siding

BY P. C. BARDIN

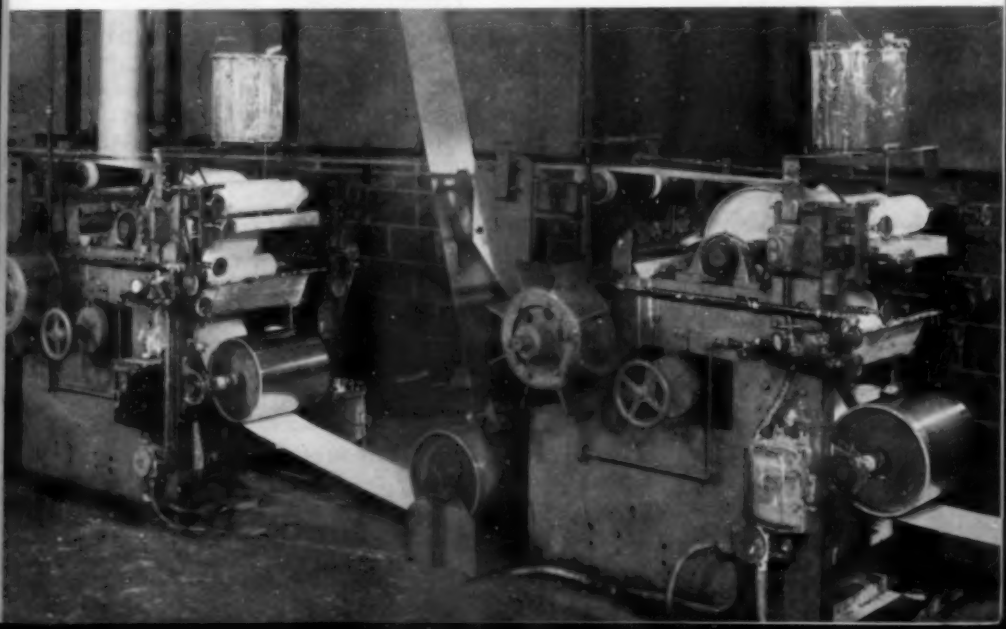
PEOPLE who cover the outside walls of their homes and buildings with aluminum siding produced by Nu-Brick Products, Inc., do not realize how much study and research have gone into this product. Nu-Brick has had to develop a product for outside use that will withstand all kinds of weather conditions in every part of the country. It may be in the hot, humid climate of the deep south, along the coast line where salt air abounds, or in the freezing cold of the north country.

Semi-Gloss Enamel Put on by Roller Coater, and Baked

Problem No. 1 was to obtain a semi-gloss enamel that can be put on the wide aluminum strips by roller coater and which will remain undamaged when those painted aluminum strips are formed into siding. It must be an enamel that will be durable under all kinds of climatic conditions.

Problem No. 2 called for the purchase and installation of equipment that will produce automatic, high speed finishing, and at the same time be of a size to fit into available space in the plant.

One enamel maker was selected to formulate a white, semi-gloss luster enamel that has the following properties. [*To page 26*]



1) Durability in weatherometer, Florida exposure and exposure at the plant site.

2) Ease of workability; to apply a wet film of 4 mils thickness that will completely flow out within 15 seconds after leaving the flow coater.

3) To bake for 3½ to 4 minutes at 400° to 440° F. without discoloration.

4) Thorough curing of the thick film during a relatively short baking cycle so the coated strip can be passed (painted side down, while hot) around a drum and onto a rewind coil.

5) Resistance to abrasion, humidity, salt spray, impact, discoloration in storage, and staining after installation.

6) Flexibility to provide the ability of the coated strip to be formed into siding that has "sharp" bends, without breaking, crazing, shattering or peeling.

To satisfy these definite and somewhat difficult requirements the most promising formulation was made in production quantities and tested at Nu-Brick's plant under actual operating conditions. Modifications in formulation were indicated by these tests. These changes were accomplished. More important, these experiments brought out facts that indicated certain changes should be made in the coating, baking, cooling and forming equipment. These were discussed in a joint meeting attended by Nu-Brick management, and representatives of the equipment manufacturer and the enamel maker. Through this cooperation certain changes were made to produce the quality of finish and the volume of production desired.

Equipment Handles Two Strips Of Aluminum 10½-in. Wide

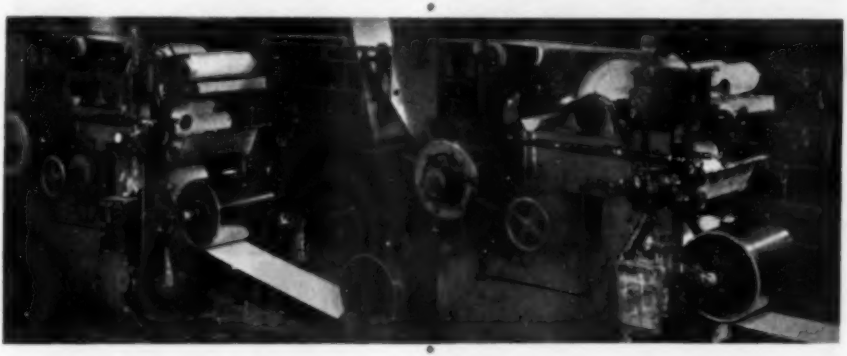
The equipment occupies a space of about 152-ft. long, and is built to handle two strips of 12-in. maximum width metal .025-in. thick, with each strip independently controlled from start to finish, the only common unit being the bake oven.

Nu-Brick buys its prime coated aluminum in coils from the mill. The coated coil is placed on a double spindle unwinding reel so that when the coil is paying out on one spindle, another coil can be loaded on the other spindle so it will be readied for the change. One reel of this type is used for each strip. The unwinder reels have a capacity of 1000-lbs.

Accumulator Unit Gives Time to Splice Strips

Right ahead of the unwinding reels is an accumulator unit which "stores" a reserve supply of about 70 lineal feet of aluminum strip. This permits stapling the metal of one coil to the next coil without stopping the line. The change is made by throwing a lever which clamps the strip at the infeed side, and while the 70-ft. of stored strip is being used to keep production going continuously, the operator pivots the new coil into position and staples the ends together.

The continuous strips of sheet aluminum leave the accumulator at ceiling height and drop down to each of two roller coaters which have air brake tension and two



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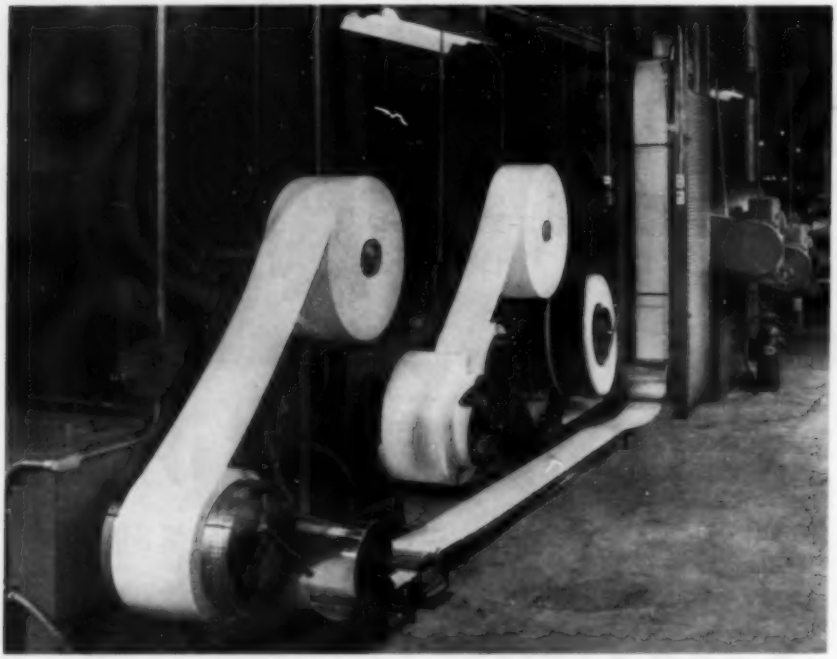


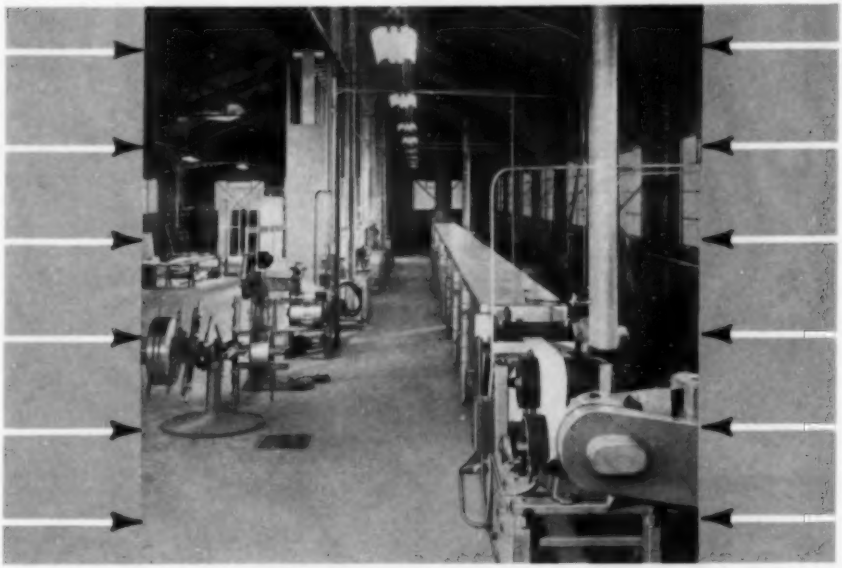
Four rewind units, two for each strip. Accumulator units appear in right background. Notice leather sling used to remove completed coil at right. The hoist is above and out of picture.

sets of coating rollers. Enamel is applied to one side of the strip only on the first set of rollers. The strip is under tension and is "backed up" with a large diameter metal roll. This arrangement permits accurate film thickness control. A second coat of enamel is applied over the first wet coat by the second set of rollers. This is necessary in order to obtain the required heavy film build-up without excessively heavy flow lines.

Bake Oven, 100-ft. Long; Has 16 Sections

The aluminum strip is kept under tension as it passes through the upper level of a 100-ft. long oven. It reverses around a roller and returns through the oven at a lower level. Most of the escaping enamel solvents are removed in the first trip through the oven, and curing of the finish is accomplished on the return trip. The oven is divided into 16 sections. The heat can be controlled independently in each section.

As the painted strip of aluminum leaves the oven, it passes through a water spray cooling unit, and returns underneath the oven to the strip drive unit. This drive unit supplies power to carry the strip unsupported during both its trips



Don't Let Small Space Deprive You of ROLLACOATING Speed and Economy

Here's one way Gasway engineers adapted continuous ROLLACOATING to restrictive length requirements. By developing a U-shaped unit, they U-tilized available space for double-duty effectiveness. The strip passes through an elevated cross-over, at rear. Feed and re-wind are virtually side by side for added convenience of operators.

Don't take it for granted that limited space makes efficient ROLLACOATING out of the question. Vertical installations, multiple parallel lines operating at slower speeds, and other Gasway innovations work wonders in restricted areas.

Engineering initiative, however, is just one "plus" of dealing with the leader, for Gasway ROLLACOATING quickly pays for itself, as well as for building alterations. A continuous unit, as illustrated, can perform every function from cleaning and treating to coating both sides, baking, and re-coiling—all in a single pass. It gives you fastest-of-all paint application without wasting a precious drop. Write for the whole savings story.

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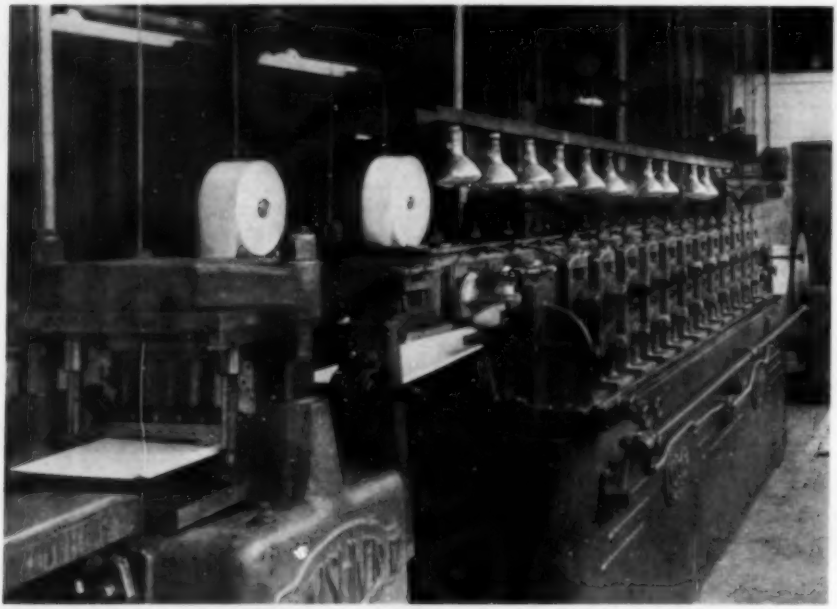

The machine in which enameled strips of aluminum are formed into siding. Infrared heat lamps heat the metal . . . . to aid in the forming operation which produces those sharp bends.

through the oven, and is equipped with a variable speed drive that has an operating range of 35 to 85-ft. per minute.

Four Rewinding Units . . . . And Accumulators

There are four rewinding units —two for each strip—so that one coil can be removed while the other one is in operation. Each rewind has a capacity of 1000-lbs. The rewinders are power driven through air-operated friction clutches which permit accurate adjustment of winding tension, and allow for coil diameter build-up between the start and the finish of each coil.

Accumulators similar to those at the infeed or unwinding end are located between the strip drive units and the rewinders. These accumulators temporarily "store" the moving strip during the time the operator is cutting the metal at the end of a finished coil and starting it onto the next rewinder.

Both strip accumulators have hydraulic safety devices to control the rate of travel of the movable carriage.

The oven is a gas-fired, recirculating type, heated with 1,000,000 BTU heaters.

Rate of Travel; Viscosity Check; Flash Dry; Oven Heat

The speed at which the strip travels through the unit is 56-ft. per minute. Viscosity of the enamel

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is 95 seconds at 85° F., as measured in a No. 4 Ford cup. The viscosity is checked four times daily and thinner is added when required to maintain the established level of viscosity. As the strip leaves the roller coater there is a flash period of 15 seconds before it enters the oven. In sections 1 and 2 of the oven there is no heat—only mild exhaust—so there is really a flash period of 27 seconds. Oven heats are shown in the accompanying table.

First trip through oven (Upper Level)		Return trip through oven (Lower Level)	
Section	Degrees F.	Section	Degrees F.
1 & 2	No Heat	16	370
3	400	14	380
5	300	12	400
7	310	10	405
9	360	8	410
11	375	6	420
13	390	4	440
15	360	2 & 1	No Heat
16	370		

Referring to figures in the tables, these temperatures are predicated on two continuous strips of aluminum passing through the oven at the same time. The temperatures indicated are reduced by 10° when only one strip is going through. Oven temperatures are checked once a day. The total curing time in the oven is 3 minutes, 36 seconds.

Cold Water Spray Cool Off; Rewind With Paper Between

As the strip of painted aluminum leaves the oven it passes over a large reversing roll where cold water is sprayed over the surface to cool the metal and set the coating. Continuing for some 150-ft. underneath the oven and through the drive and accumulating units, the coated strip is cool and dry by the time it reaches the rewinders.

When the strip is rewound, a strip of paper is fed into the coil between the coated surfaces of metal to protect them against scratches which otherwise might come from handling the coils between the rewinders and the forming machine.

Efficient coating of any product is dependent on materials and equipment. Each has its limitations; however, if suppliers will work cooperatively with management, they can usually develop an efficient system, one that all of them can be justly proud of, as is the case at Nu-Brick.

Author's Note: Companies who contributed to this study and research with Nu-Brick Products, Inc.—and whose cooperation has made this article possible—were Reliance Varnish Co. and Gasway Corporation.

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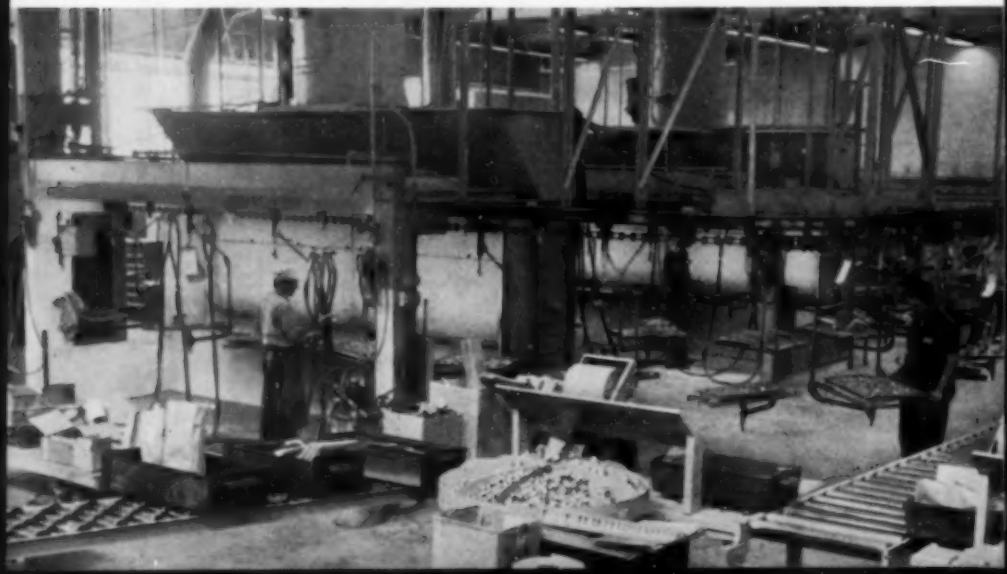
Finishing Parts For *Military Airplanes*

BY L. M. REDINBAUGH
Gen. Foreman, Paint Processing
North American Aviation, Inc.
Columbus Division

THOUSANDS OF aluminum alloy parts of different sizes and shapes are used in the manufacture of Fury and Sabre jet planes. Some of these parts are prime coated only; others receive a prime and top color coat; still other parts go into assemblies with no paint coating on at all.

It is necessary to have an extremely flexible system for cleaning and finishing such a wide variety of sizes and shapes—pieces ranging from something smaller than a fountain pen to sub-assemblies as large as an automobile body. In fact, we have two distinct finishing rooms for these parts; in one room we are set up for automatic dip coating; in the other room we have a spray coating setup.

Spray booths, conveyors . . . . drying ovens are at left . . . . masking stations are at right.



Here are facilities for cleaning and putting different protective coatings on aluminum alloy parts of various shapes and sizes. They include zinc chromate primer, pigmented lacquers and a strippable material. Methods of application: dip coating, manual spraying.

All Parts Move Through Conveyorized Power Washer

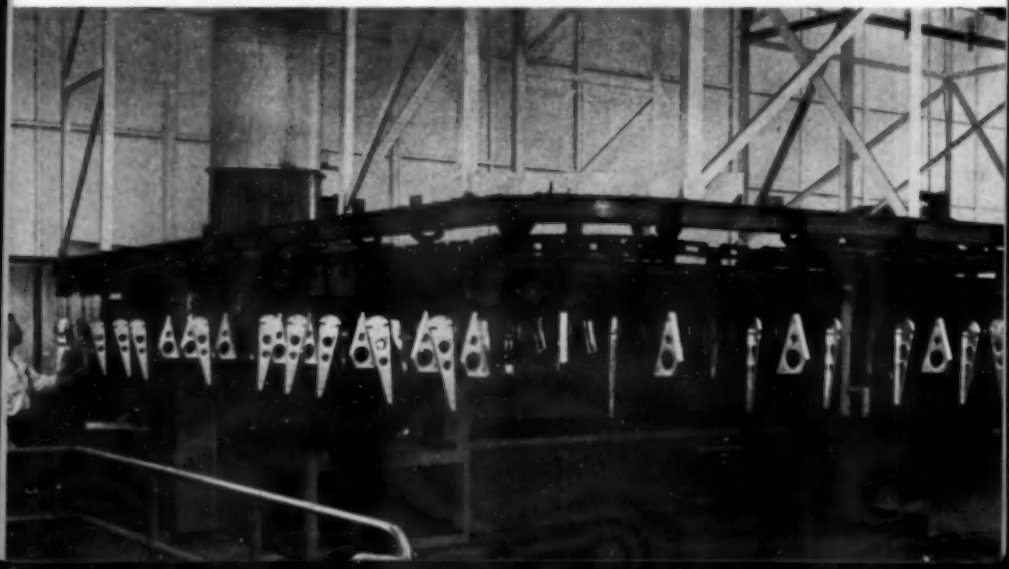
Regardless of whether batches of parts are to be coated or remain in their natural state, whether they will be dip coated or sprayed, all small parts go through a power washer to remove surface contamination such as oil, grease and dirt. Assemblies and large parts are handled in another operation.

Two overhead monorail conveyors, driven through variable speed drives at 20-ft. per minute, with hangers on 8-in. centers, carry parts through the power washer. Parts that are not to be coated are loaded on one of these conveyor lines, and after they pass through the washer and dry-off oven, they are removed and sent to the assembly lines.

The other conveyor carries parts to be coated through the wash, rinse, chromodizing and drying operations, then on through the dip prime tank and drying oven. Parts to be spray painted are removed from the conveyor and transferred to another finishing room. Articles to be dip coated remain on the conveyor to go through the dip tank.

Solutions in the power washer spray over the parts from both sides and the bottom at 30-lbs.

Two overhead conveyor lines carry airplane parts into and through this power washer.



pressure. Here is how the metal surfaces are cleaned and treated in the washer:

Stage	Solution	Degrees '
1	Alkali cleaner with emulsion	150
2	Hot water rinse	160
3	Hot water rinse	160
4	Chromic acid (5% conc.)	134
5	Hot water rinse	170

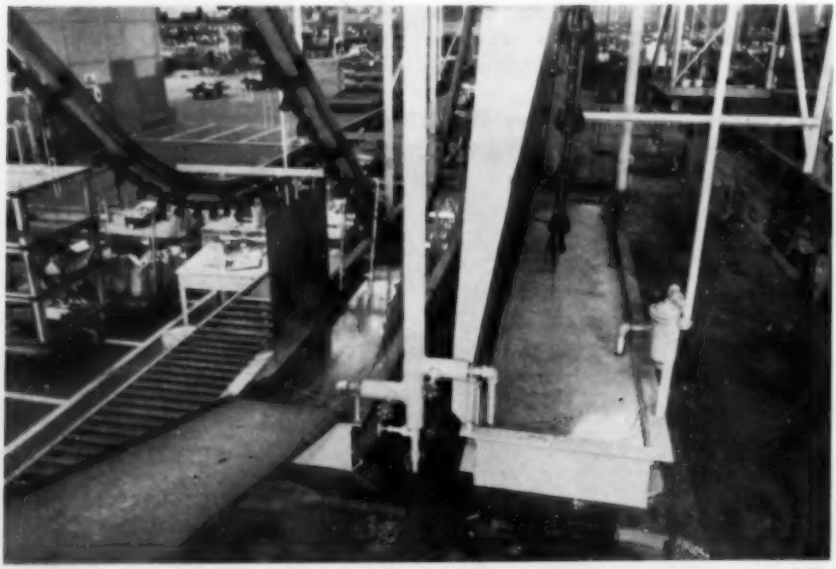
At the exit end of the washer, parts pass through a dry-off oven for 1½ minutes at 190° F. At this point certain parts are removed from the conveyor and taken to the spray painting room. Some of these are irregularly shaped pieces; others are flat with flanged edges —in fact, any part that has a shape or construction which makes it difficult to drain properly after dip coating must be spray finished.

Must Avoid Scratches On All Surfaces

Right here I want to emphasize that the handling of parts for airplanes is far different from handling the parts for some other products. Extreme care must be observed to prevent scratching the surface of any parts, regardless of whether those pieces are to remain unfinished or are to be prime coated or finished. This rule applies not only to all of the parts, but to the surface of the plane itself. Later I shall explain how surfaces are protected against scratches in handling and assembly.

Conveyorized Power Dipping; Constant Agitation of Paint

Now to get back to the small parts which continue traveling by



Conveyor hooks are stripped in tank at right and pass through the rinse tank at left.

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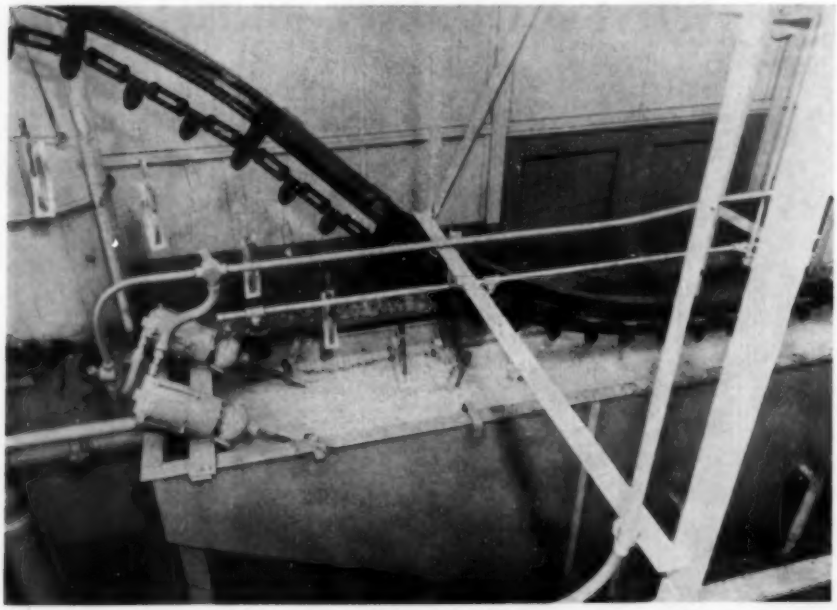
conveyor to cool for five minutes before they enter the dip tank. A U-dip in the conveyor line provides for automatic immersion of whatever hangs on the conveyor. Here the traveling parts are coated with zinc chromate primer. Dipping conditions are absolutely controlled at all times. The zinc chromate primer is maintained at a viscosity of 32 seconds at 75° F., as measured in a No. 1 Zahn cup; and it has a specific gravity of 1.30.

To insure a thorough and uniform mixture of material in the 940-gallon capacity tank, the contents are agitated by four electrically driven propeller type agitators, two at each end of the tank. Also a circulating pump pulls zinc chromate primer from the top of the tank, and forces it back into the tank at the bottom. With the four propeller agitators and the circulating pump operating, the 750 gallons of zinc chromate primer in the tank stays thoroughly and uniformly mixed.

Temperature of the zinc chromate primer is kept at 68° F. at all times. This temperature is thermostatically controlled within plus or minus 2°. A refrigerating unit located in the control room is connected to plate coils inside the dip tank. Freon gas circulates through these coils to cool the zinc chromate primer when necessary. This



Close-up of parts entering dip tank. Note electrically-driven propeller-type agitators mounted at an angle in end of tank. Two more agitators are positioned in the other end of tank. A circulating pump (250-gallons per minute) is located in lower left corner.

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Watch for programs, activities, and information about educational sessions to be announced later.

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1955 INDUSTRIAL FINISHING EXPOSITION
1849 West 24th Street, Cleveland 13, Ohio

arrangement saves thinner and provides constant control over the dipping operation to insure thorough coverage, proper drainage and correct film thickness—three highly important requirements.

Coated parts travel up to an elevated, steam-heated convection oven in which part of the air is recirculated. They are dried for 45 seconds at 150° F.

Fire Protection Features of Dip Coating Setup

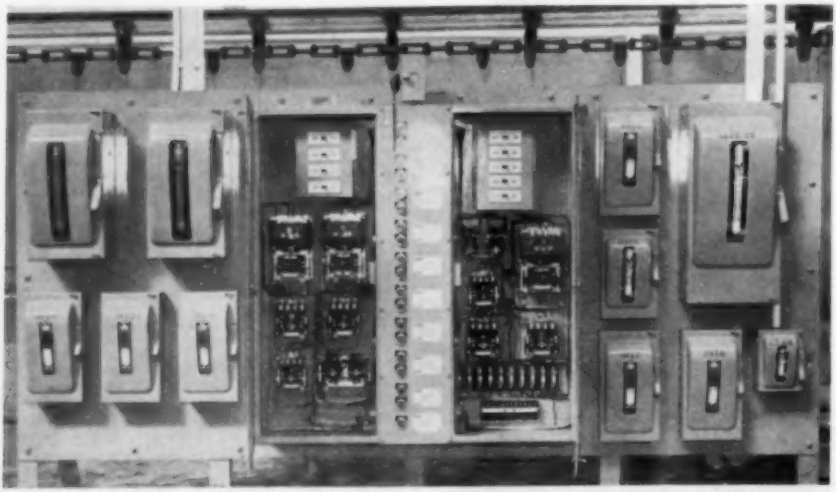
The conveyorized dip coating unit has a capacity for coating 5000 parts per hour, and it is all done mechanically. The dipping equipment is adequately protected against fire by an automatic CO_2 system and mechanical controls. An underground tank of 1500 gallons capacity is connected to the dip tank by dump valves. In case of a fire these dump valves are automatically opened so that the zinc chromate primer quickly flows out of the dip tank and into the underground tank. The conveyor is automatically stopped, and all exhaust ducts are closed.

Conveyor Hooks Stripped Automatically on Each Cycle

After the conveyor is unloaded its hooks pass through a stripper tank on the way back to the fabricating department. Zinc chromate that clings to the conveyor hooks is removed with a 5% solution of sodium hydroxide which is heated to 210° F. This hot dip is followed by a cold water rinse, after which fixed nozzles of compressed air blow the hooks dry.

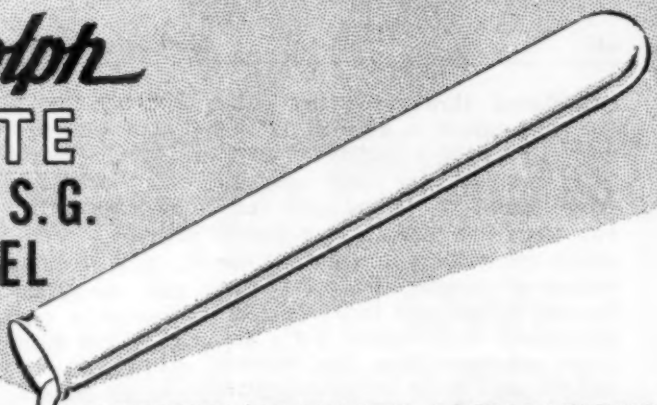
Spray Room Pressurized and Air Conditioned

The spray finishing room is pressurized and completely air



Manual controls for operating the system, and automatic controls in case of fire.

Randolph WHITE BAKING S.G. ENAMEL



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conditioned throughout the year. Its temperature is kept at 72° F., with a relative humidity of 50%. This room contains three complete conveyorized finishing units and two large downdraft spray booths which are serviced by manually operated overhead conveyors. These two booths are used for coating exceptionally large special parts and large sub-assemblies. For convenience I shall refer to the conveyorized spray units as Nos. 1, 2 and 3.

Unit No. 1 is served by a flat metal mesh belt on which parts are loaded. Flat parts, large and small, are placed on paper mats on the belt. This is done to prevent any scratching of the aluminum surfaces, and at the same time it aids in keeping the metal belt clean and free from any overspray of coating materials. The belt travels at 30-ft. per minute.

In the first spray booth zinc chromate with a pigment added is sprayed on one side of the parts. Then these parts pass through a steam heated convection oven for 45 seconds at 150° F. to dry this coat. As they leave the oven an operator reverses them on the paper mats just before they pass through a second booth where the other side is coated. Continuing, the parts pass through a second steam heated convection oven for 45 seconds at 150° F. As they leave this oven, the completed coated parts are unloaded, inspected and placed in boxes to go to the assembly lines.

The viscosity of this coating material is 32 seconds at 75° F., as measured in a No. 1 Zahn cup. Atomizing pressure used is 30-lbs., and fluid pressure is 5-lbs. Obviously, with these low pressures, there is little overspray, and through the use of paper mats, the metal conveyor belt remains reasonably clean for a long time.

Unit No. 2 has an overhead monorail conveyor which is driven through a variable speed drive at 12-ft. per minute, with hangers on 24-in. centers. Wire trays are suspended from this conveyor to hold small sub-assemblies. Some of these parts require only a zinc chromate prime coat; others must be primed and then sprayed with pigmented lacquer. On this unit as many as 12 different colors of lacquer are used for coating various parts.

As sub-assemblies move through the spray booth, they are given a prime coat of zinc chromate. This prime coat air dries by the time they make a complete round trip; and as they pass through the booth the second time, the lacquer color coat is applied.

Peelable Coating Protects Aluminum Surfaces

Some outside plane parts require zinc chromate on one side and a protective, peelable coating on the face side. These parts make a complete trip through the spray booth and on the return trip they are turned to receive the peelable coating on the face side. This coating remains on the face of these parts until after they are assembled in the plane, to prevent any scratching of the aluminum surface.

Unit No. 3 also has an overhead monorail conveyor driven through a variable speed drive at 14-ft. per minute, with hangers on 48-in. cen-

Weatherproofs in ONE OPERATION

Stanley 40X-610 one-package WASH-PRIMER

Now steel or iron parts can keep the weather at bay throughout a year of outdoor storage without topcoating. Reason: Stanley 40X-610. This one-package, one-operation wash primer for spraying, brushing, or dipping forms a weather-tight skin that lasts. Its resistance to corrosion and rust creep is excellent. And Stanley 40X-610 may be used with most topcoats. Find out more about this low-cost, easy-to-apply outdoor protection . . . write today for the new bulletin on Stanley 40X-610 to: Stanley Chemical Company, 41 Berlin Street, East Berlin, Connecticut.

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ters. This unit is used for coating detail parts and sub-assemblies which require a lot of masking. Suspended from this conveyor and holding the parts to be masked are metal trays which can be revolved like a turntable so that parts can be coated on all sides. Here we have the same sequence of operations as prevail on Unit No. 1. After leaving the final oven, these parts are unloaded, inspected and then moved through the masking section where they are demasked.

Masking Plugs; Pre-Cut Shapes; Tape; Paper; Etc.

Masking materials employed include precision made aluminum alloy plugs, ordinary corks, pre-cut to shape pressure sensitive tape, and pre-cut to shape kraft paper which is held in correct position by masking tape.

Both zinc chromate primer and color lacquer coats are applied in this unit. Some parts for jet planes receive as many as 22 coats of a special coating material to protect the metal against rain drops and dust particles which, at exceptionally high speeds, would damage the skin of the plane. Anti-abrasive coatings are most important; however, the film thickness must be accurately controlled so that it will remain within the allowable maximum of 0.011-in. dry film thickness.

The finishing room has a capacity of 25,000 parts per hour. This includes pieces of all sizes and shapes—some prime coated only, others primed and color coated, primed and peelable coated, primed and anti-abrasive coated; also masking, demasking and inspection. Included are a wide variety of parts both in size and shape. Changes in size, shape, quantity and finish specifications are frequently made, as changes in design are made to improve the performance of various airplanes.

How to Get Mass Production Finishing of Special Parts

All pressure tanks are filled with the correct viscosity material in the paint mixing room and brought to the respective spray booths. Spray guns are cleaned and serviced regularly in the tool crib so they are always in prime working condition.

Precision metal masking plugs and corks are stripped of accumulated coating material at regular intervals so they can be used again and will fit the openings satisfactorily. Code numbers indicate the type of finish required on various parts. Parts arrive promptly at the several production stations and they are just as promptly removed after finishing.

Add to the several features described in this article a spirit of cooperation among the employees and you have the answer to mass production finishing of highly specialized parts.

Fight Polio in '55!

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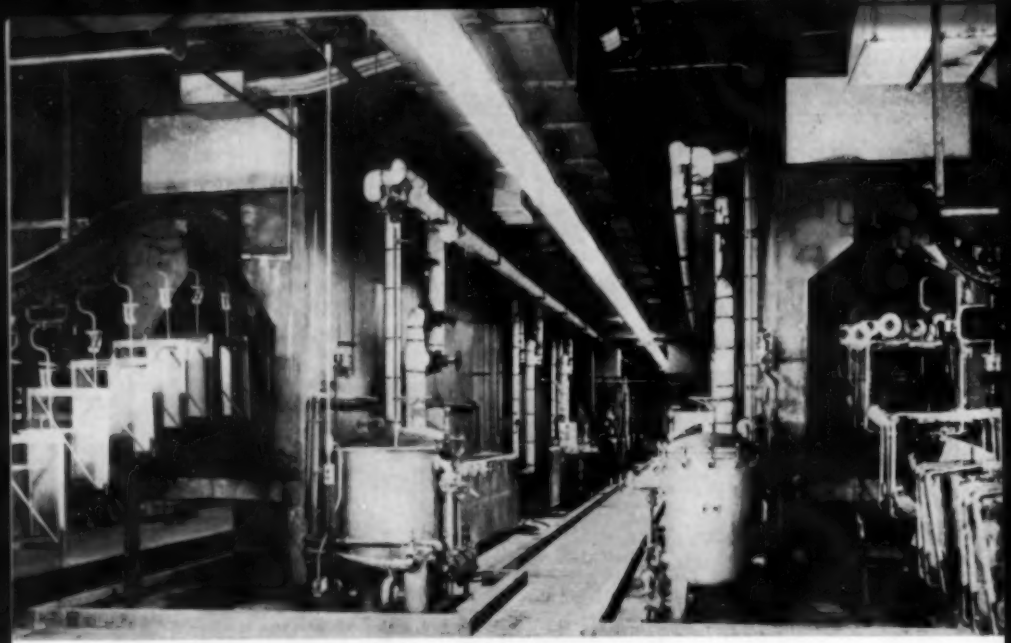
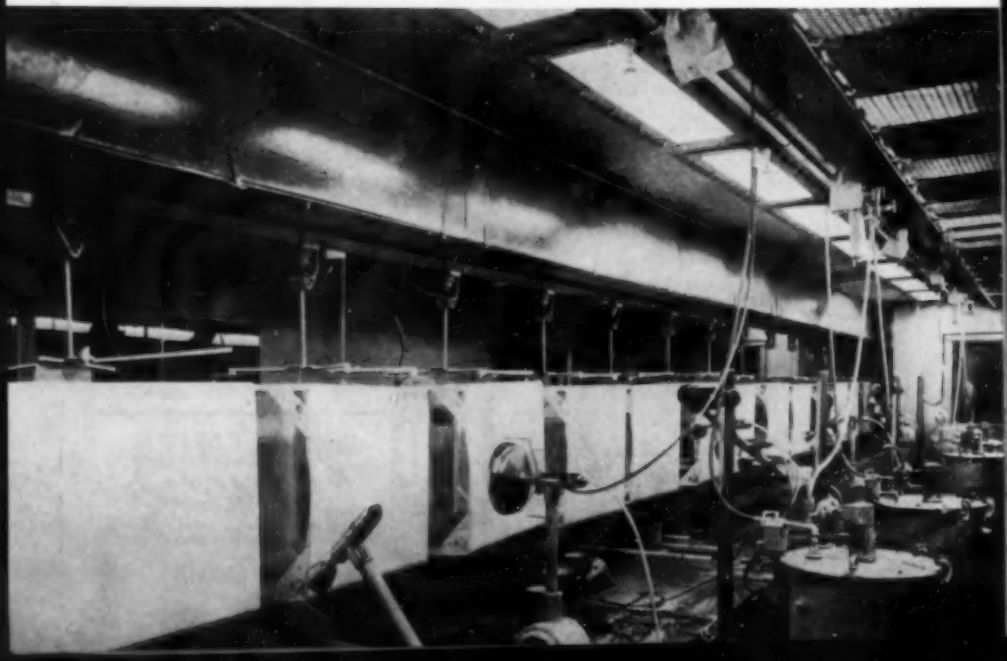
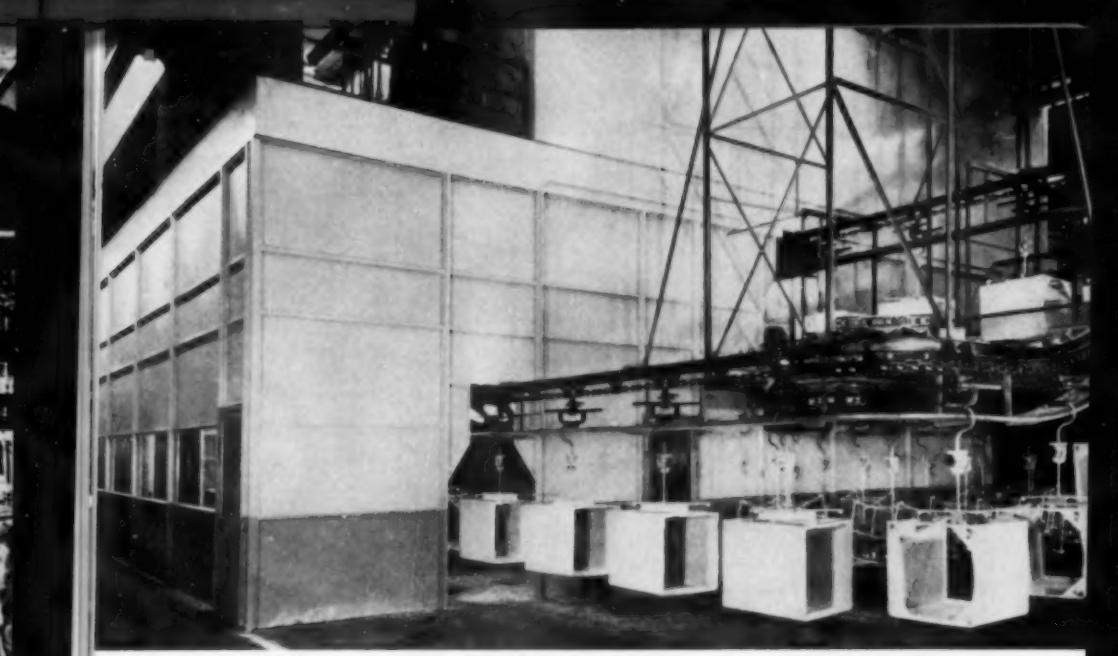
ALEMITE Versatal SPRAY-PUMP EQUIPMENT



Above: Parts entering metal washers. Parts to be painted white enter at left; those to be black enter at right. Above is air duct through which make-up air enters this area.

Below: One side of conveyor line where white enamel is put on electrostatically by No. 2 Process. Conveyor travels right to left. Note how closely products on the line are grouped.





Conveyor in foreground is carrying flow coated parts into and through a long booth where these articles will receive their final white finish coat by airless electrostatic spray.

Electro Spray Finishing

G. E. Washers and Dryers

From an interview with Thomas J. Snodgrass, Superintendent of Finishes, in Home Laundry Dept. at Major Appliances Division, General Electric Co., Appliance Park, Louisville, Ky.

MECHANIZATION and improved processing in the production of General Electric automatic washers and dryers in the modern GE plant at Appliance Park, Louisville, Kentucky, are accounting for increased production, with higher quality at lower cost. This is especially true in the finishing of home laundry units which are now finished electrostatically with the No. 2 Process instead of the former hand-spray method. [*Continued on page 50*]

Formerly, both the automatic washer and dryer production was part of the GE operation in Trenton, N. J.

The dryer operation in the new and modern plant at Appliance Park started in earnest January 1, 1953. The complete washer move from Trenton was completed in August 1953. Early in 1954, daily production had far surpassed the highest we could get at Trenton.

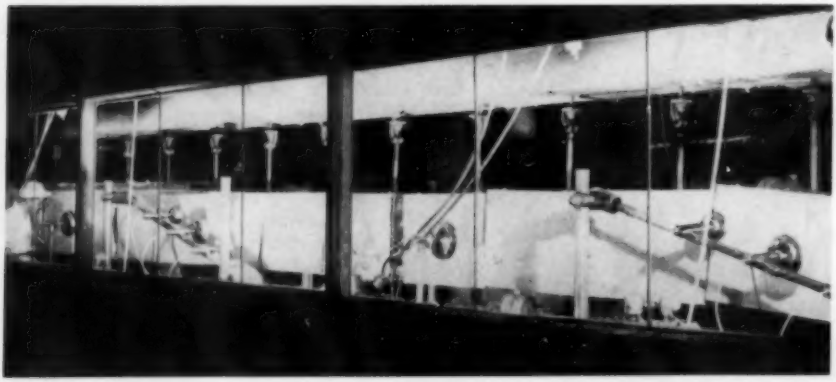
Increased Paint Mileage by Electrostatic No. 2 Process

Finish paint mileage is increased 84% in finishing washers. In Trenton, we were producing 9.74 good automatic washers per mixed gallon of finish. Now, at Appliance Park, with the No. 2 Process of electrostatic spray finishing, we are able to coat 17.97 automatic washers with one gallon of finish.

And, where formerly we were able to coat 5.49 dryers per mixed gallon of finish with hand spray at Trenton, we are now able to finish 9.56 good units per mixed gallon of finish. An increase of over 74%! Quality of the work is definitely improved.

Surfaces are wiped clean with a tack rag before the finish coat is put on.

Painted parts for the washers and dryers are classified broadly as "white" and "black". Painted on separate production lines, the white and black lines are combined when



Looking through windows at parts receiving their white finish coat by airless electrostatic.

Flow-Coating by Koch!

OFFERS THESE TREMENDOUS ADVANTAGES:

Material Savings Of 50%

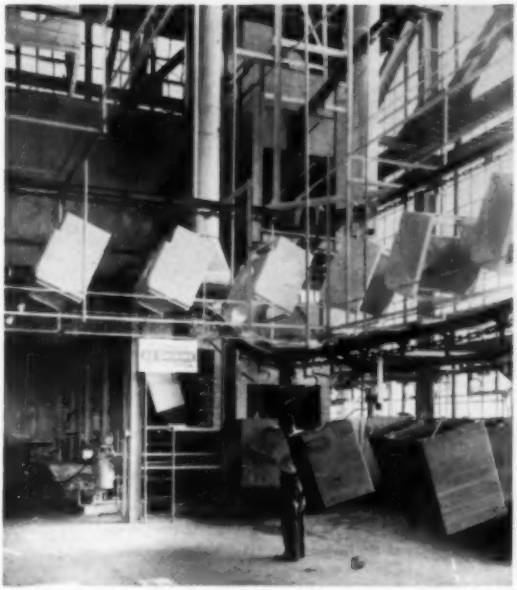
●

Elimination of Indirect Labor

●

Quality Finish on Prime and Finish Coats

●



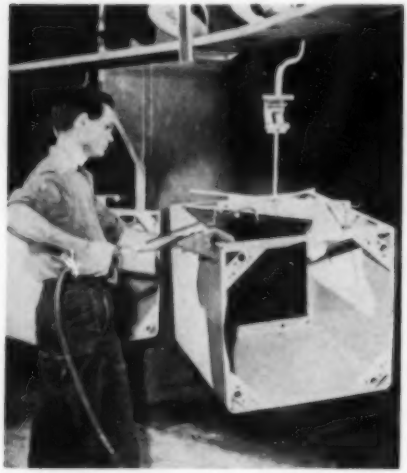
If your product is now being sprayed or dipped, you should be first to investigate the money-saving advantages of "Flow-Coating by KOCH"—a concept of product finishing now being increasingly employed by plants large and small, regardless of production rate.

Consult KOCH flow-coating experts now and learn how it can be profitably adapted to your present set-up. The entire system, from layout through installation, is handled by KOCH under a single responsibility contract that assures you of peak efficiency at lowest possible cost. Get more facts about "Flow-Coating by KOCH." WRITE FOR BULLETIN 44!

"IF YOU SPRAY IT OR DIP IT, YOU CAN FLOW-COAT IT BETTER"

GEORGE KOCH SONS, INC.

EVANSVILLE, INDIANA



After a light prime coat sanding, surfaces are blown clean with compressed air.

they approach assembly. The black parts are flow coated, with one application.

Material for the conveyor line handling white parts comes over to finishing from fabrication on two supply conveyors. On the automatic washer, the cabinet is painted white. The six white parts of the dryer include two sides, a front, top and two components, the inner and outer door, which are combined to form the dryer door.

Parts to be painted are loaded on a monorail conveyor. Four hours and 10 minutes elapse from the time parts are loaded on the finishing line until they are unloaded in assembly. The continuous, straight-through conveyor eliminates building up of banks and, by cutting down extra handling, it lessens the possibility of damaging any parts in process.

Cleaning; Phosphatizing; Dry; Flow Coat Prime; Sanding

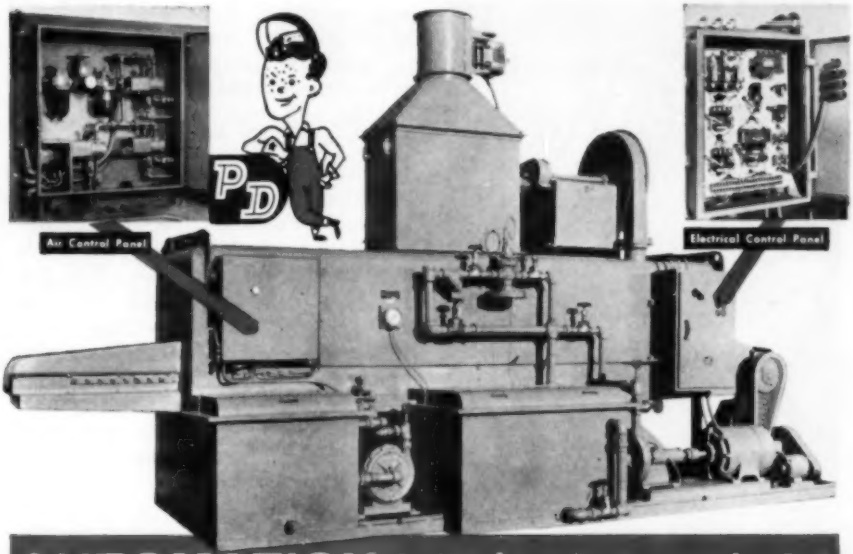
First entering the metal washers and phosphatizing machines, the work to be painted on the white line goes through seven cleaning stages: 1, cleaner; 2, rinse stage; 3, rinse; 4, phosphatizing; 5, rinse; 6, chromic rinse; and 7, deionized water wash.

After a 5-minute dry-off in a steam heated oven at 300° F. the work makes a 30-minute cooling cycle; then it goes to the flow-coater for the application of a prime coat.

Two position racks are used for most of the parts to accommodate flow coating and electrostatic applications.

Inside and outside surfaces of the cabinets are drenched with paint from nozzles in the flow coater. The work then goes through a solvent vapor drip tunnel. Thirty minutes after baking, the work moves on to the prime and sand area for a light sanding with fine sandpaper. [*Continued on page 54*]

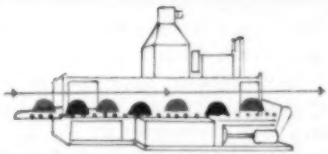
Part of the paint drum storage racks.



AUTOMATION in Washing Equipment by P-D

(Above photograph is of a 3-Stage Washer for Torque Converter Housings)

Many important production problems are met and solved by this Power Spray Washer—designed, engineered, and built by Peters-Dalton. It meets the full meaning of the newly coined word "automation" by eliminating many processes that were formerly manual or handled through separate facilities.



Extremely efficient, time-saving, and economical in operation is the action of this 3-Stage Washer. It sprays both the inside and outside of converter housings. The operation is done in a continuous action—first, the housings are fed to the machine on gravity rolls—then an air cylinder moves each over the inside spray manifold. This same motion holds back the unit following and moves the preceding unit onto a cross-rod conveyor for outside wash. Another cylinder positions each unit over the manifold and blocks the shaft opening. The inside and outside wash are both heated emulsified oil cleaners—room air blow-off removes excess oil. The exhaust has an eliminator and a filter box for entrapping overspray.

Whatever your problems are for washing products during your manufacturing process, count on Peters-Dalton for the correct solution. Peters-Dalton is an organization of specialists—staffed by men who KNOW the answers. Washers of all sizes, types and required uses can be developed to meet your needs – whether from a single unit or to a complete installation – depend on P-D to give the services and production you have the right to expect. We invite inquiries—Just Write, Wire or Phone.

Ask for our new Power Spray Washer Tech. Bulletin No. 301.

P-D Peters-Dalton INC.
17916 Ryan Road
DETROIT 12, MICHIGAN

- *Hydro-Whirl Paint Spray Booths*
- *Industrial Washing Equipment*
- *Drying and Baking Ovens*
- *Hydro-Whirl Dust Collecting Systems*

Cleaning work holder racks in molten salt bath. The operator controls immersion time with push button switch. Rinse and quench follows this operation. Length of time in salt bath depends upon type of paint and thickness of paint coatings on the rack.

The work is regrouped automatically from 48-in. to 36-in. centers for electrostatic application in the electrostatic booth. Inner and outer doors are grouped at 40-in. centers. Before entering the finish paint area, all surface dust is blown off and the outside surfaces get a "tack rag" treatment. Two hand sprayers, working in a water-wash booth, do what reinforce spraying is needed on some irregular shaped sections and bracings just before work enters the electrostatic spray booth.

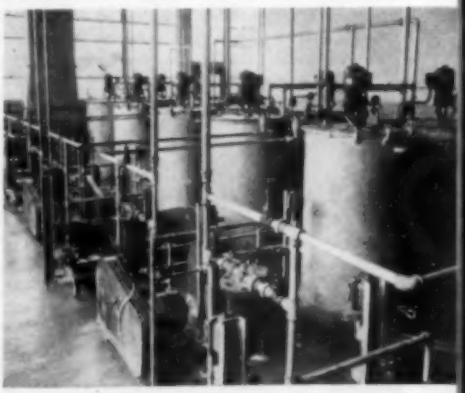
Process No. 2; Triple Heads on Both Sides of Line

Visitors in the finishing department at Appliance Park often make the remark, "It's like painting in a show case." Sparkling windows line the entire length of the 44-ft. electrostatic spray area. Absence of overspray on the windows attests to the efficiency of the painting equipment.

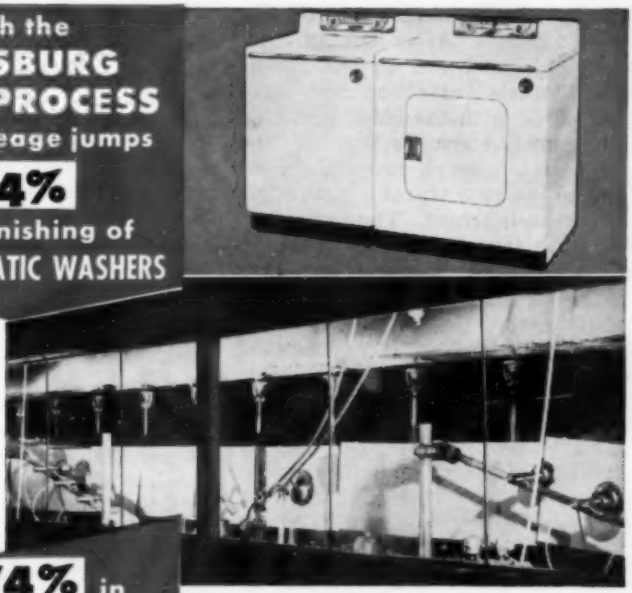
Here, in the electrostatic spray area, two No. 2 Process triple heads are used on each side of the conveyor line. And, two triple heads at a lower level coat the underneath surfaces of the cabinets. No compressed air is used in the No. 2 Process units. Atomization occurs under the influence of an electrostatic field, producing a spray pattern of electrically charged particles. The irresistible attraction of the electrostatic field pulls the paint spray to the moving parts which are grounded electrically on the conveyor. All of the sprayed paint is deposited on the work in process.

A finish coat of 1-⅓-mils is applied in a double pass, with a one minute flash-off between. A 5-minute flash-off period is provided before the pieces travel into the

Mixing tanks and circulating pumps from which paint is delivered to work areas.



with the
RANSBURG NO. 2 PROCESS
Paint mileage jumps
84%
in the finishing of
G-E AUTOMATIC WASHERS



...and **74%** in finishing G-E DRYERS

Production is increased and quality of the work is improved over former hand spray method

● When General Electric formerly hand sprayed their home laundry equipment—automatic washers and dryers—they painted 9.74 washers with a gallon of paint. Now, in the new and modern plant at Appliance Park, Louisville—where they're using the Ransburg No. 2 Process—they get 17.97 units per gallon of paint. An increase of 84%!

And, where they formerly got 5.49 dryers per mixed gallon of finish, now—with the Ransburg No. 2 Electrostatic Spray Process—they get 9.56 dryers per gallon of paint. An increase of 74%!

Along with increased production, G.E. is getting a more uniform, higher quality finish. Another typical, on-the-job-example of the unmatched efficiencies of the Ransburg No. 2 Process of electrostatic spray painting!

Want to know what Ransburg Electrostatic Processes can do for you in your finishing department? Ask about the complete facilities for test-painting YOUR products—under simulated production conditions—in Ransburg laboratories.

Ransburg ELECTRO-COATING CORP.
Indianapolis 7, Indiana

RANSBURG

electric oven for baking at 320° F. for 36 minutes. After baking, the finished parts travel to the finish inspection station; then they are transferred with the black parts to the assembly conveyor line.

It is a teamwork proposition at GE and we're naturally proud of our accomplishment. The improved mechanization; additional conveyorization; flow-coat priming; and electrostatic spray painting (with closer quality control)—all these contribute to the desirable results we are achieving in maintaining high quality standards in the production of our products . . . at less cost.

Acknowledgment. Much of the information used in the preparation of this article was supplied by the Ransburg Electro-Coating Corp.

Screen Process Convention

More than 3000 screen process printers, suppliers and manufacturers and others interested in the industry from all over the U. S., Canada, Mexico and overseas attended the Sixth Annual World Convention of the Screen Process Printing Association, International, held Oct. 30 through Nov. 2, at Hotel Jefferson in St. Louis, Mo.

With a 1954 convention theme, "Screen Process Printing as a Business and Screen Processors as Businessmen", the industry this year saluted its rapid advance from the backroom craft stage to a full-fledged position as a big business with ever-increasing horizons in industry.

Reason for this rapid growth was apparent in the more than 90 exhibit booths displaying modern equipment and supplies. The advanced mechanization of the industry, as exemplified by the equipment exhibited, together with the diversification of market and the adoption of modern business methods are responsible for the industry's advancement.

Displays of many fine dryers designed for use with modern conveyors and screen presses indicated that the drying problem has been controlled and reduced to a matter of routine adjustment in daily plant production. Manufacturers of inks, paints, films, papers and other supplies for screen process printing proved, in their respective displays, that they have kept pace with the rapid growth of the industry. Thus mechanization has played a major part in making the screen process printing industry a "big business."

Tips on Touching Up—I

TOUCHING UP IS done well when it blends with, and is indistinguishable from the surrounding finish. This means that the work should match in color, grain and gloss; it must be free from any gritty appearance; and there should be no evidence of a fat edge.

Since most touching-up is done under pressure of time, it is necessary to use quick-drying materials. Shellac has been an old stand-by for this purpose. In mixing dry colors with shellac, a heavy cut should be used, and afterward the mixture should be thinned with alcohol.

My own preference is for a padding lacquer. It is thin in body and is an excellent solvent for dry colors and alcohol-soluble stains. Moreover, one can palette dry colors right in the brush. It gives excellent adhesion, dries as fast as shellac, and will hold under any finish. Being thin in body, it shows little edge when brushed on.

A word as to color matching: Most of the blonde gray finishes are simply off-whites. Start with a strong white, such as especially prepared for touching-up—not zinc white or even flake white. Tint with Van Dyke brown, yellow, black or one of the umbers, or a combination of colors to produce the desired shade. If necessary to grain, use the same tinting colors, stroke the grain in with a No. 0 brush, carrying the strokes a little beyond the patched area.

After the colors are set, pad over the area lightly so as to soften the grain strokes and blend them in with the surrounding finish. If no more finishing is to be done, a little cream polish may be added to the pad. This permits a lighter pressure on the pad and prevents it from lifting your color. Besides, the entire surface can be padded over in this way to a uniform gloss.—*H. L. Round.*

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Please send me information on your line of hot spray heaters best suited to our work. Type of products being finished_____

Application is conveyorized____ turntable____ mobile____ other____
Average volume of material per gun per hour_____
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Fine Furniture Finish
Patching Techniques

BY H. H. CONNELLY
(PART I)

WHEN LAYING OUT the finish repair station, few production men consider the importance of good light and the effect it has upon a completely satisfactory repair job. This station should be located where natural northern light will reflect the true color of a partially and completely finished wood surface. Artificial lighting distorts the shades and tints of color, so much so that when a finish is repaired under artificial light, and later is viewed under natural light, the repair stands out like a stop light.

The management of one furniture factory having trouble with patching, quite logically assumed that the fault lay in the operator. They made several changes in repair men without finding a correction. Finally, in desperation, a representative of the company furnishing repair supplies was called in to help train a new operator. The difficulty was spotted immediately and the repair station was relocated, with surprising results.

A spray booth in the work area is important. This can be a standard size or bench type booth, depending upon the size of the parts being repaired. It should be located near the work bench or some place where it is accessible without interrupting regular production.

Tools, Supplies, Materials That Skilled Patchers Need

The materials, tools and supplies needed at the average finish repair station will include shellac sticks of various colors, burning-in knives, touch-up spray guns with suction or pressure feed cups attached, samples of various stains and fillers used in regular production, felt blocks, sanding blocks, rubbing compounds, dry pigment powders in a variety of colors for blending colors to match all finishes, masking tape, glue, brushes, steel wool, containers of the same sealer and coating material used in production.

Since repairing a defective finish is primarily a matter of skill in matching color shades and tones through the addition of a color to a localized spot, some mention should be made of the factors that lend themselves to good work. First is good eyesight; second, whoever is entrusted with repairing must have a knack for judging colors correctly.

The presence of another color nearby tends to change the appearance of the repair. Eyestrain

In the building pictured above we have technical and laboratory facilities available to help improve and speed up your furniture finishing.

●

We manufacture both clear and water white lacquers and sealers of the highest type—low and high solids—with cold check resistance—tough—flexible—alcohol resistant—in fact just about everything in a lacquer finish you might expect, either hot or cold, formulated for spray application. Also pigmented lacquers any sheen to meet your requirements.

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can be a menace to a repairman who does not realize the importance of frequent rest to his eyes between jobs. Look at a piece of black velvet at times. Change the focus of the eyes occasionally; look outside if possible.

A frequent troublemaker in repairing finishes on wood surfaces is the different wood textures and wood grain patterns. Differences in sheen from highly polished to dull surfaces can be troublesome too.

Discover Damage Before Finishing Begins, if . . . .

Where time, money and labor can be saved in repair finishing is not in the finishing room at all, but *in the elimination of defects before they reach this stage in production.* Unfortunately few if any concerns can boast of this sublime level of efficient furniture manufacturing and finishing—for a number of logical reasons. First, there is the human element upon which all are dependent. Under the best of supervision and skilled workers, some defects and damaged places are not discovered until finishing operations are well under way.

Every precaution should be taken to remove scratches, sand-throughs, loose veneer, poor joints, dents, glue stains, and sharp edges by a careful inspection *before stock is checked from the assembly room to the finishing department.*

Once the finishing process begins, the smallest scratch across the grain, hardly noticeable in the white, becomes an ugly scar magnified by stain and filler. On veneered furniture, where the thin top veneer is sanded through to the cross band, we are faced with the most difficult type of finish repair. Another type of damage is caused by sanding through a toner coat to the wood. Still another source of trouble is in the rubbing, especially where the finished surface being rubbed is slightly uneven. An inexperienced, careless or indifferent operator may rub through the finish in some places.

"We're fortunate, having Flibwick—he's a patching specialist."

Finished Grain Repairing Calls for Skill, Materials

Remember the saying, "there's more than one way to skin a cat"? There's more than one way to add artificial graining to a crossband when the top veneer has been sanded through. Pick the one that your men can handle most effectively.

To reproduce the top grain on the cross veneer after the thickness of the top veneer has been

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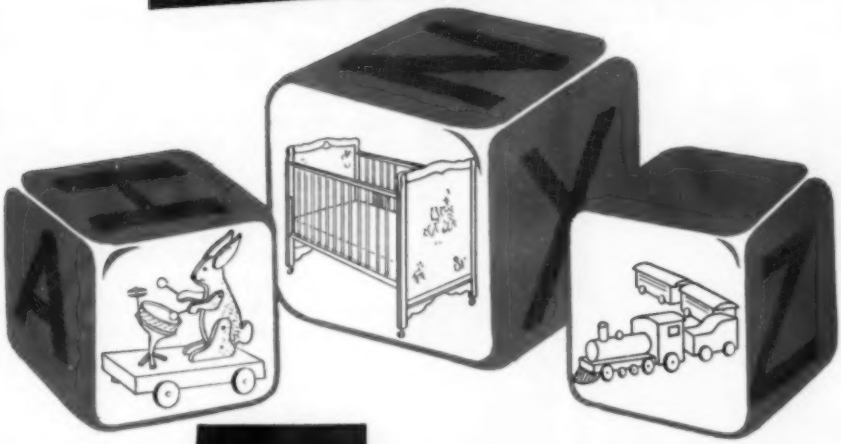

UNITED'S NON-TOXIC LEAD-FREE LACQUERS & ENAMELS

Brilliant colors galore and safety too—that's what you get in United's lead-free finishes. Gay, sparkling finishes formulated specifically for juvenile products, open new horizons for product beauty. And, you know the coating will meet your requirements. United's lead-free lacquers and enamels will stand up to the rough handling of children, too. Applied by dip, spray or brush, quick drying, they provide a tough, weather resistant coating for metal, wood or fibre board products. Specify United finishes to be sure—Send for color chips and a generous working sample today.

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sanded away requires the best in repairing technique, as well as a correct sense of color matching.

There are several methods of graining a damaged surface. One is to add hand graining to the base coat by means of an artist's brush. Another method is to use a common lead pencil to mark in the grain.

Adding artificial grain with a lead pencil. Here is a panel with the top veneer sanded away in the center of the panel, leaving only the grain of the crossband. The pencil should be sharp and fine lined to reproduce the small grain lines. The ground coat is sprayed over the pencil graining.

If wood grain is magnified many times its natural size, you can see that the figure is made up of tiny cells arranged according to winter growth and summer growth. Further, the figure is made by these tiny figures being placed either closely together or wide apart to form a dark outline. In walnut, this resembles tiny thread-like streaks, some long, some short.

Now let's talk about background color. . . . It's an important technique to master and is essential in every method of graining known.

You will find the proper color after some experimenting. One easy way to avoid color trouble is to submit color samples of your finish to concerns who specialize in this type of work. Let them formulate the correct mix, and your worries are over. Place additional orders by batch number and you will always get the same color blend. You can secure these colors ground in oil, dry or in lacquer.

One other difficulty in mixing your own pigments is often the fault of the pigments themselves. Pigments can vary slightly in hue or shade, depending upon the source from which they were obtained. When ordering, it is always a good practice to obtain your colors from the same supplier and by a number. Don't say "dark umber." Say "dark umber No. 64 or No. 22"—whatever number has been assigned to your particular shade.

Applying Background Color By Controlled Spraying

Your background color can be added by spraying or by padding. Perhaps the most effective and simple way is by spray gun—not just any gun; the best gun available is manufactured and sold as a touch-up gun. It sprays a controlled pattern, from mist to heavy, and it is light and easy to handle.

A suction feed cup is always advisable. The amount of material you will be spraying will seldom exceed a quart a day. If it requires more, look into some of the mentioned causes of repair and correct same by removing these causes.

In adding the ground color there is a definite technique to prevent

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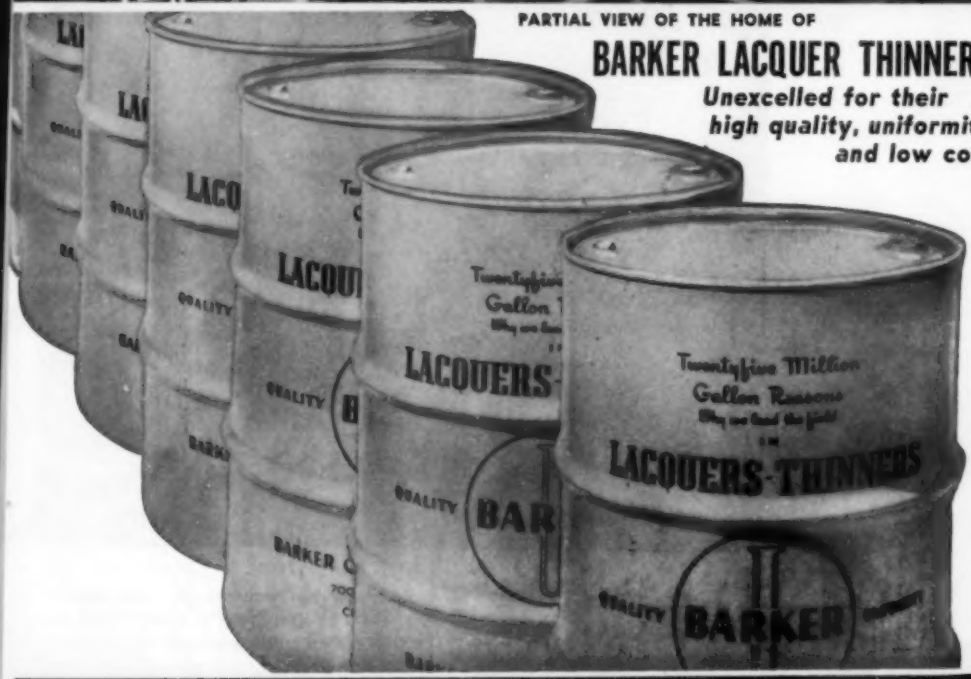

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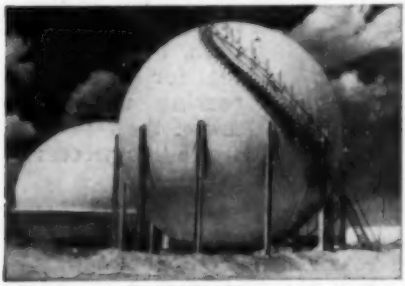
And, durable DULUX is adaptable to many different application techniques.

There are more than 12,000 Du Pont finish formulas already serving industry. If you have a finishing problem, you can get expert help by contacting the Du Pont sales technician in your area. Or, write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington, Delaware.



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the color from building up heavy and giving the appearance of paint.

Cut the spray pattern to a pencil line and mist the color on by moving the gun in an arc over the defect, always in the direction of the grain.

Adding the ground coat and touching-up the light spots with a small touch-up gun, with suction feed cup attached. The spray should be a fine mist.

You will find the color blends nicely by feathering out as the gun swings farther along the arc from the work. If your ground coat is correctly formulated the two should blend perfectly.

Here's another trick to aid you in judging the final effect: Use a pigmented lacquer background material; it will dry quickly. When you think you have the correct coverage, pass a naphtha soaked rag over the patch and surrounding surface. The color you see through the naphtha film will be the same as when the final top coat of lacquer has been put on and rubbed. If it needs more color, wipe the naphtha dry and add more ground coat and repeat for a check. The same thing works both ways. If your ground coat is too heavy, sand away a portion with waterproof sandpaper while the surface is lubricated with naphtha.

Padding in or "Frenching"; Skill and Experience

French polishing or frenching, a present-day process of repairing a defective spot on a surface, was once the only method of applying a finish to the entire surface of a piece of furniture, regardless of its size. This was before the days of the bristle brush.

Today the process has a very important place in finish repair operations. Once the technique of French polishing is understood, the repairman will find a variety of places where its simplicity is advantageous. Rubbed through spots, surface scratches where the top coat has been broken, light spots, applying ground coat for graining, and removing packing marks—these are only a few of the repairs that lend themselves to this process of repairing.

Correctly preparing a pad for French patching is important. After experimenting with all materials you will find that washed cheesecloth or surgical gauze are ideal materials. To make the pad, fold or roll the gauze into a small pad, being sure the cut edge of the cloth is inside the pad. If lint or ravelings are exposed they might cause a messy patch. Make the pad as small as possible to enable you to control the area to which the color is to be applied. Apply padding material to this pad sparingly, using only enough to produce a slightly tacky surface over the area to be repaired. [*Continued on page 68*]

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Years ago every patcher had his own pet formulas for padding materials, nearly all of which were basically the same—a shellac base. Today, materials that are nearly foolproof are prepared for this use, and they come ready to use. No oils or solvents need be added.

The technique of French patching is simple if a few precautions are heeded. After first moistening the pad with a Frenching material, press the pad against the palm of the other hand or against a layer of cloth to remove any excess material.

Before starting to pad a defective area, remember that to stop the pad on the surface will result in a print mark that is hard to remove, and any pad mark crossing the natural grain of the wood is equally difficult to remove, so use a stroke that is always in the direction of the grain (never circular) and be careful to keep the pad moving in a sweeping motion, being sure the pad is moving when it contacts the surface, and that it is still moving when leaving the surface. Film build is obtained by repeated applications.

A repair man who is unfamiliar with the technique can soon develop skill and will find a difficult repair can be satisfactorily finished in a few minutes.

Next to the spray gun, you will find that color can be added to a patch by the Frenching technique. It is especially handy for the patcher who is handling repairs of all types, shades and colors without a sufficient volume of either to warrant mixing a quantity of pigmented lacquer.

Dry pigment colors are used and mixed by the repairman as he works. Kits can be secured which contain these powder stains, running all the way through the color scale. These colors should include golden oak, nigrosine, brown mahogany, Bismark brown, light maple, yellow orange, Chinese red, American walnut, red mahogany, brown maple, wheat, prima vera, limed oak and blond.

Matching the color by blending depends upon the skill of the patcher. A small amount of color is mixed at a time—usually between the thumb and first finger.

After obtaining a tacky surface with the Frenching pad, the powder is transferred from the index finger to the tacky surface. A few more strokes of the Frenching pad seals the color in, and subsequent coats of colored pigments are added until the correct depth of color has been restored.

Remember the naphtha trick? It will come in handy here, too. Spread a thin film on the surface and observe your work. Heavy? Take off a little with waterproof sandpaper and try again. This time you may want to lighten the patch to produce a better color blend, or you may want to darken it. One good thing about finish patching; you can always start over.

(To be continued)

Ind. Finishing Show, June 20

According to the list of exhibitors who have signed up for the 1955 Industrial Finishing Exposition, the show will be much larger than the 1952 Exposition. The show is scheduled to open at the Cleveland Public Auditorium on June 20th, 1955.

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Tack-Cloths

IN VARIOUS TYPES, TO WIPE OFF DUST

BY THOMAS M. LYMAN
President and General Manager
Bond Chemical Products Co.

TO ONE servicing the needs of the finishing industry it is surprising to be constantly reminded that there are still men identified with finishing work who are not at all familiar with the use of tack-cloth, or tack-rags. This remark is prompted because of the continuing inquiries for information as to just what a tack-cloth is and what it does. Sometimes new users seem amazed at the improvement in their efforts when economical tack-cloth is used to remove dust, lint or sand particles.

Different Tack Cloths for Different Shop Conditions

We come next to the inescapable conclusion that there must be a great many more finishing men who do not know that there are different types or kinds of tack-cloths readily available for their particular needs, and at no extra cost. Since all "dust problems" in the finishing rooms of various plants in different industries are not the same, it is easy to see why a certain type of tack-cloth will not work at all in one "set-up", while it does a perfect job in another.

Without attempting to catalog all of the many different situations in which a tack-cloth is used we can point out some specific instances to make our point. Plant *A* might have a very slight dust problem in wiping off metal panels, because of the physical cleanliness of the plant itself; while plant *B* may be doing identical work but have a serious problem from dust particles. Plant *C* might have an experienced and well trained labor force that knows exactly how to use a tack-cloth properly without heavy rubbing; while plant *D* might be on an expanded basis and using hastily recruited help which cannot be

This article is written with the idea of being helpful to finishing men, by letting them know that there is probably one best type of tack-cloth for each particular need and that several different types of tack-cloth are available.

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readily and properly trained in simple yet important tasks like "tack-ragging". Plant *E* might be sanding an undercoat before final finishing and might have a large amount of very fine dust to remove before applying the final coat. Also, let me remind you, wood-product plants present dust problems that differ considerably from those in metal-product plants.

Different Cloth Meshes and Different Degrees of Tackiness

The type of material being wiped may require a special type of tack-cloth. For example, surfaces of brass, glass or plastics usually reflect better results if a tack-cloth of lighter "tackiness" is used.

A few years ago most commercial tack-cloths were made from a 32/28 mesh cloth, and in varying shades of gold. When cloth prices advanced at the time of the Korean conflict, practically all tack-cloth processors dropped to 28/24 mesh in order to hold down costs and selling prices, and this mesh was found to satisfy the needs of most users. Now, however, some processors have dropped down another notch to a 24/20 mesh cloth and this mesh is also finding good acceptance, primarily from a price standpoint. Tack cloths are also made in 20/16 and 20/12 mesh cloths for various reasons, and their use is increasing slowly.

We have found that the different cloth meshes, or the thread counts can be important for particular needs in individual cases and our firm now processes tack-cloths from three different cloths (28/24, 24/20 and 20/12) as stock merchandise.

Also, we have found that some plants require tack-cloths of greater or lesser "tackiness" than our standard product which contains resinous materials equal to 100% of the weight of the untreated cloth itself. So we now make "specials" of 115%, 75%, 65% and 55%, for special problems, and these are available at the same prices as our standard product. However, we cannot always give immediate shipping service on the "specials" as we do on the regular type.

Gold Color Tack Rag; New White Cloth Developed Too

In addition to the three cloth meshes just mentioned and the tack-cloths of various degrees of "tackiness", I have come across finishing men who objected to the common gold color of tack-cloths, usually because of some incident in their own past experience. As an example, one finishing foreman running white enamels was horrified to find a gold color "bleeding through" his white. Investigation disclosed that droplets of a degreasing solvent had been trapped in welded seams and, when the tack cloth came in contact with these droplets, some of the resinous materials had become deposited on the metal, but it could hardly be seen by the eye.

Due to such objections to the gold color, our firm set about a few years ago to develop a formula for a white tack-cloth, and it is now produced in all three thread counts at a slightly higher price than the gold types.

As tack-cloths become more and more widely used in finishing oper-

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Automotive Synthetic Enamels, as a rule, are very difficult to handle. Equally difficult is the proper maintenance of spray booths where this type of enamel is used.

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ations, increasing attempts are made to get away from the traditional hand operation of tack-ragging and to put tack-cloth wiping on a mechanical or semi-mechanical basis. In these cases it is of prime importance that just the right type of tack-cloth be used—this precaution being necessary in order to avoid trouble, while getting the best results possible.

Make Tack Cloth Wiping a Mechanical Operation Too

Two types of mechanical tack-ragging that come to mind are the use of tack-cloth on a revolving roller which comes into controlled contact with the pieces being wiped, and the use of several layers of cut tack-cloth on a flat surface that is brought into controlled contact with moving pieces on a conveyor. As each layer of tack-cloth becomes soiled it is removed to allow the next clean layer to go to work.

Such mechanical operations are usable only on flat surfaces and must be carefully worked out as to the amount of friction between the tack-cloth and the product, because excessive heat, only a little above normal room temperature, might cause some of the low-melting-point resins to be deposited on the wiped metal or wood, etc. Where curved surfaces are involved, hand tack-ragging is most practicable.

No Single T.C. Solves Every Kind of Dust Problem

There is no pat answer to the "dust problem" of any particular finishing department because of the variables involved, such as physical cleanliness of the plant, type of employee involved, actual finishing procedures, type of product and material being worked on, type of finish being used, personal attitude of the finishing foreman, etc.

The best approach to each case is to furnish several different types of tack-cloth in sample form to the finishing men and let them be tried out under actual existing production line conditions. Our firm does this and also offers information in letter form as to the availability of tack-cloth in greater or lesser degree of "tackiness" . . . Tack-cloth is available in roll form for those who want to use it in their own particular way, in large or small pieces or in cut form.

Tack-Cloths Can Serve as Dust Catchers Elsewhere Too

Going beyond the immediate problems of the finishing department, the dust-holding properties of tack-cloths have been found to be useful in related problems. They are used as facings for "glass-wool" air filters to make the filters more efficient and to prolong their useful life; the low-cost piece of tack-cloth is removed rather frequently as it becomes laden with dust which can be seen readily. They have also been used as a sort of hanging or drapery type of "dust-catcher" in spots where there are noticeable currents of air.

Perhaps one of the best uses for tack-cloth outside of the finishing department is in the stock room where large pieces might be stored on open shelves and then gather lots of dust. Stock men, handling such pieces, can do a much better and faster "dust-removing" job

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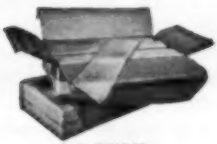

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with a good tack-cloth than they can with an ordinary dust cloth, and they actually eliminate the dust wiped off instead of merely displacing it. In other words, dust that comes in contact with the tack-cloth is picked up and held; it isn't released to fly into the air and again alight on surfaces.

Summing Up Quickly What's Been Covered in More Detail

To sum up these rather random thoughts, a standard gold tack-cloth processed from 28/24 mesh cloth is still the type most commonly used—that is, from our experience—but we find increasing demand for the specials of lesser degree of "tackiness" for use on brass, glass, plastics, etc., or where excessive rubbing might be injurious to the final finish; and for those specials that have a greater degree of "tackiness" for use where dust particles are heavier or more numerous than usual.

Also, the most open cloths such as 24/20 and 20/12 are finding increasing usage and they have advantages to offer from a cost standpoint and because the more open threads in several layers of a folded tack-cloth can actually do a more efficient job of picking up and holding very fine dust particles which may be present in large quantity.

We have noticed too, a slowly growing demand for the pure white tack-cloth, usually because of personal preference of some finishing men, even though it costs a little more. The tack-cloth has also been put into uses beyond the immediate wiping off of materials just prior to applying finishing coats.

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Du Pont's New Color Laboratory

A new laboratory for research on pigment colors has just been completed by the Du Pont Co. at its Newark pigments plant.

The laboratory provides color chemists of the company's pigments Department with the most modern facilities available for continuing work on product and process improvement and for stepping up long-range research on new pigment colors. Research formerly conducted at several locations on the plant will be consolidated in the new building.

The laboratory was opened officially Friday, Dec. 10, with an inspection tour by about 70 research and production employees and members of their families.

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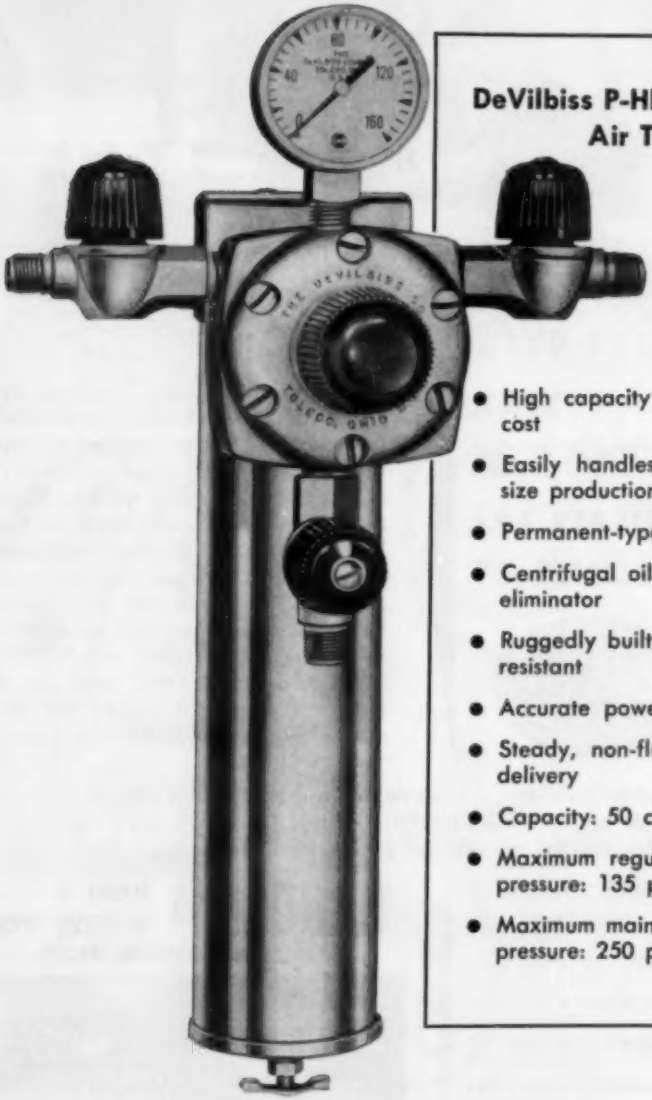

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BRANCH OFFICES AND DISTRIBUTORS IN PRINCIPAL CITIES THROUGHOUT THE UNITED STATES, CANADA AND THE WORLD

Dip Whirl Machine

While reading October 1954 issue, we came across a letter requesting information on Dip-Whirl centrifuging machines. We are interested in the same equipment. Will you kindly send us this information also?—*M. Mfg. Co.*

One of them has a ½-page advertisement in this issue.—*Editor.*

Aircraft; Flow Coating

Please send me a copy of the article, "Northrop Aircraft Adopts Flow Coating," by J. D. Brenemen, which appeared in August 1954 issue of Industrial Finishing.—*Canadian G.*

Copy has been sent.—*Editor.*

Special Spray Problem

We have a special spray painting application which we seem to be unable to solve. Our problem involves the need for special templates which can be used for continuous spraying without the wiping operation.

Can you name a company that specializes in the making of templates—a firm that might be able to assist us with the job? Will you send us a list of such organizations? It would certainly be helpful.—*G. T. P.*

We are confronted with the problem of painting doll eyes on a mass production scale. Do you know of any companies who, 1) Build semi or fully automatic spraying equipment to paint small parts? 2) Make electroformed masks? 3) Sell the right paint? Any information you may give us will be appreciated.—*M. Brush Co.*

In a letter we are naming several concerns, any one of which can probably supply just what you want.—*Editor.*

Aluminum Silicone Paint; Dip-Whirl Machines

We would appreciate the address of a company that can supply Aluminum Silicone paint, and also the names of the makers of Dip-Whirl and centrifugal coating machines.—*A-R Corp.*

In a letter we are submitting names of firms which can supply what you want.—*Editor.*

Painting Steel Drums

We have just completed reading the article, "Painting Steel Drums in Singapore," Part IV by C. Raymond Syer in October 1954 issue.

We are manufacturers of new steel shipping drums and have found this article extremely informative and interesting. We are interested in obtaining the name of the company who formulates this Epon Resin form-

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CHICAGO 14

ulation XA-200, so that we may obtain samples of this material to do testing in our own laboratories.—*G.*

We are not sure which company's finish or coating material was used. Very likely, Mr. Syer can tell you. His address is 9644½ W. Olympic Blvd., Beverly Hills, Calif.—*Editor.*

Flock Finishing

We would also like to inquire as to where we might procure information regarding methods of applying flock. Anything that you can do to help us will be sincerely appreciated.—*R. W.*

Several illustrated articles on this subject have been published in Industrial Finishing. Other literature of practical value can be obtained from manufacturers of flock, whose names and addresses we are sending you by letter.—*Editor.*

"The oven's way off. We now have a rainbow colored product due to different formulation of the paint."

That "Gantron" Process

Further in regard to the so-called "Gantron" Process referred to in our exchange of correspondence, ending with your letter of August 9, we are of the opinion now that this process represents a fluorescent type of finish rather than a reflective coating. Have you any information that would clarify that?

We are familiar with 3M Co. products and are working with them on some other items.—*Pre. Products.*

You probably have your answer by now, but in re-reading the September issue I came across your question on page 78 concerning the "Gantron" process.

I have not seen the "Gantron" name used in connection with signs, but the makers of Gantner Swim Suits use the term "Gantron" when referring to their fluorescent fabric which makes a swim suit "visible for two miles."

Basically, therefore, I believe the inquiry from "Pre. Products" merely is asking for fluorescent sign material information.—*Henry C. Dewes, Chemist, I. H. Co.*

Waste Enamel; Old Paints

We are manufacturers of specialized farm equipment, and have accumulated a considerable quantity of "waste baking enamel," as taken from the sump of our flo-coat machine at the end of a production run. We note (page 82 of October issue) that some companies make a specialty of reclaiming similar materials. Would you give us their names and addresses?—*D. Machine Co.*

We are interested in contacting companies who buy surplus paints and lacquers. We have an accumu-

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HERE ARE A FEW OF THE PLUSES YOU RECEIVE FROM PERFECTION'S EXCLUSIVE PROCESS OF SYNTHETIC FLATTENING:

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Available in: PERFEX SATIN FINISH (varnish); CLEAR SHEEN SATIN (lacquer)

IF YOU MANUFACTURE FURNITURE, WRITE US FOR SAMPLES

Perfection PAINT & COLOR COMPANY

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lation of enamels that have become obsolete and which could be reworked into low priced finishing materials. If you know any such firms we would appreciate your sending them.—*C. Motor Works.*

In a letter we are naming some firms that will probably be interested in what you have.—*Editor.*

Graining Equipment

We have had several inquiries regarding sources of information and equipment manufacturers for the application of artificial wood graining on hardboard. Will you please give us a list of possible suppliers of this equipment?—*G. Pt. & Chem. Co.*

In a letter we are sending you the names and addresses of firms that make or supply this equipment.—*Editor.*

"Thinners we have plenty of around here. Can't we ever hire any on the plump side?"

Screen Process Decorating; Striping Tools

We want to find out methods for decorating furniture with silk screening, and manufacturers that can supply us with same. This furniture will be in black and yellow finish.

We are also interested in bronze striping. If possible send us names of manufacturers that can supply us with devices or ways of doing this.—*J. C. Co.*

Information supplied.—*Editor.*

We Supply Pre-Cut Masks

On page 85 of October 1954 issue, we see a request for information on disposable, pre-cut masks, signed "D Rubber Division." We would appreciate the name and address of the inquirer so that we may send samples and literature of Brady pre-cut masks.

Our bulletin No. 160-B, with a large number of samples of Brady pre-cut masks (card and liner mounted), is being sent for your inspection. —*W. H. Brady Co.*

It's Dryden Rubber Division, Attn. J. F. Olsen, Eng. Div'n., Keokuk, Iowa.—*Editor.*

Flock Adhesives

We thought you would like to know that we have established an adhesive business . . . . devoted exclusively to the development and sale of high quality flocking adhesives.

As you know flocking applications have been limited by the poor quality of the adhesive.

We feel that flocked surfaces should be in wider use and are therefore

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Direct Pressure Can & Small Drum Filler

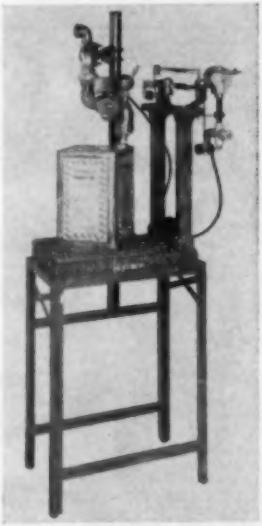
This machine is recommended for filling heavy liquids into container capacities from 1-pint to 5, 10 and 15-gallon drums whose gross weight is not in excess of 250-lbs.

Scale beams at operator's eye level. Weights can be easily checked or changed. Upper beam graduated 15-lbs. by 1-oz. Lower beam 50-lbs. by ½-lbs., making it possible to tare any container before filling and check the results after. Special sealed counterpoise weights for net container contents if desired.

Scale platform measures 12-in. by 15-in., and can be supplied with roller conveyor at slight extra cost.

Filling valve is both vertically and horizontally adjustable, and will rotate across scale platform to center nozzle over round, square, or rectangular container openings. Interchangeable nozzles are available to fit all orifices from ¼-in. to 1½-in.

When writing for further information, please specify: Capacity and gross weight of containers to be filled, as well as liquid being used; Flat or roller platform; Voltage, phase and cycle of electric current in use; Bronze or cast iron valves.



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P. O. Box 54, Buffalo 16, N. Y.

specializing in high quality adhesives for flocking all the various kinds of flock on all surfaces.—*Durolastic Co.* (Address on request).

Small Roller Coater

Could you give us the name of one or two companies that make a small roller coating machine suitable for placing the top color on small metal embossed license plates? We are interested in a small machine.—*S. Stamp Works.*

In a letter we are naming concerns which, we believe, can supply what you want.—*Editor.*

Tumbling Barrels

I think that in our shop we are hand-polishing and buffing a great deal of work which could be barrel-processed before and after plating. I have made several essays, but the results have been often poor. I think that my task would be much easier if I could have some literature about this technique.—*A. C., Buenos Aires, Argentina.*

In a letter we are naming several manufacturers of tumbling barrels; they will be glad to send you catalogs and literature.—*Editor.*

"I dunno who he is. He comes in every six months and checks our bake oven."

Metallic Finish on Woods

On page 80 of October issue, someone is looking for a "durable metallic finish" which would closely simulate brushed brass or silver.

Would you please send me the names of your advertisers whom you believe can supply the materials and service.—*M. Furn. Co.*

Information supplied.—*Editor.*

Wrinkle Electrostatically

We are interested in the article, "Applying Wrinkle Enamels Electrostatically," in the October 1954 issue. Please advise address of George A. Conrad, New Wrinkle, Inc., Eastern Sales and Service.—*K. Mfg. Co.*

Information supplied.—*Editor.*

Oven Drying Wood Finishes

A portion of the article, "Ovens for Force Drying Wood Finishes," appearing in October edition of Industrial Finishing, is missing from our copy. We wonder if you might have an extra print of this article? If so will you please send it to the writer's attention?—*DuPont; S. F. Calif.*

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If you require your coatings to accomplish some specific task — something beyond mere ornamental appearance or average longevity . . .

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Dramatic? Unbelievable? Yes, we admit that this is an extreme case. But a rule-of-thumb developed through our experience with more than 140 installations in all types and sizes of plants indicates that we do increase efficiency and hence savings of approximately 50% over push-pull finishing methods.

Photograph of indirect labor being eliminated at Grand Rapids Chair Co., Grand Rapids, Mich.

Do you have the impression that your techniques are not suitable to DeBurgh Conveyorization? Short processes — long processes —may all be integrated on the same timed system.

You owe it to yourself to investigate, unless you are completely satisfied with your current net profit.

Free booklet—free engineering service—showing what we can do for you, your plant, your product, your production and your techniques. WRITE TODAY!

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Affiliate: GORDON BARTELS CO., *Roller Coating Specialists*

Detearing Equipment

We are looking for manufacturers of paint drying equipment called "detearing" equipment. We need this machinery to dry drops (tears) that form on small metal parts after lacquering. These should be taken off whil drying. We know that a number of firms make it but do not know who and where they are.—*B.W.Co.*

One method of detearing is to have the conveyor carrying suspended dip-coated parts move those parts through an electrostatic field or zone. The proper kind of electrostatic detearing equipment will cause the excess paint (in the form of clinging drops) to fly off in an almost invisible mist, while the surface from which the excess paint is removed will "smooth out" perfectly, leaving a uniform thickness of paint film.

We know of only one company (they also manufacture and install electrostatic spray equipment) that offers this equipment.

Another method of detearing is the use of what is called a solvent vapor tunnel, through which dip-coated parts are moved by conveyor.

Companies who have developed these methods and equipment have done much experimenting and testing before offering the equipment for installation in manufacturing plants. Any such installation, to be successful, calls for special engineering work on the part of those who have experience, knowledge and skill in this work.

In a letter we are giving you the names and addresses of companies that offer the detearing equipment mentioned.—*Editor.*

To Paint Small Buckles

In regard to the small buckles with prong and roller, used on ladies' shoes and the like, while in the past these have been plated, we understand that the general trend in America is to enamel these, and the fashion in this country [England] is to follow suit.

While we believe these buckles will be treated in a rotary barrel, we are wondering if you can give us any information in regard to the treatment, amount of lacquer used, temperature, tilt of barrel, etc.—*F. J. B. & Co.*

Products or parts of the type you mention can be coated in bulk in dip-whirling machines or in tumbling barrels.

The best way to get exact information about the performance of one or more of these machines, so you can learn what results can be obtained by a certain method, machine and coating material—and perhaps the follow-up baking for greater durability—is to send a quantity of your parts to one of the manufacturers we are naming in a letter to you.

These concerns have, in their research and experimental departments, machines and men experienced with this kind of work. They will make trial runs, send you the finished parts, and submit specific information about the machine, the process, the material, the time allowed for each step, the

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NON-INFLAMMABLE
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Removes hard bake-on enamels, primers, wrinkles, hammers, synthetics, japans, and 3M Scotchlite in seconds in most cases, and minutes in others. *The finish literally pops off!* There's no delay in getting metal items back in production when ELECTRO COLD STRIPPER is used.

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baking heat—in fact everything you will need to know to begin production on a practical and economical basis. This way you get the benefit of long experience and well-informed men who have worked on and solved similar problems for many other concerns. You will get the results you want quickly and without going through a lot of failures over a long period of time in costly experimenting.—*Ed.*

Finishing Plywood

One of our clients has a problem of sealing and finishing 2x8-ft. panels of 1⅛-in. plywood for use in making concrete forms.

As you can imagine, these are cumbersome and heavy to handle, and I was wondering if you had published any articles dealing with the problems involved.

Also, have you published anything in regard to the best type of finish for this purpose?

We are interested in getting anything available on the subject. If you could send us tear sheets of whatever articles you have published or give us a bibliography, we would deeply appreciate your cooperation.—*H.H.M.*

I have taken this matter up with a local paint chemist, and he has come up with the following suggestion:

Assuming that your client is using plywood that is intended for use as concrete forms, that is to say, plywood in which waterproof glue has been used for bonding, he could contact his supplier of finish materials and have him furnish a penetrating oil sealer in which a percentage of silicone is added. Perhaps it would be best to dip the 2x8-ft panels into this material and suspend them vertically to drain and dry.

It is believed that dipping would

Mac's FASHION SEALERS & LACQUERS

A specially formulated sealer for the first coat under clear gloss or flat lacquers provides a good body and sands easily. Also works well under varnish and enamel. A production test will prove its superiority.

MAC'S FASHION LACQUERS are available in clear and opaque for application to all kinds of surfaces. Spray easily and give good coverage in any desired sheen. Outstanding for clearness and attractiveness. **Do not get cloudy.** Write for a production test sample and descriptive folder.

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give a better coating and also would have a tendency to seal all edges as well as the face and back of each panel. The supplier will know how much silicone to add, if he is informed about the purpose of the coating. He will also recommend the correct drying time, either for air drying or force drying in an oven. He will also recommend the number of coats to be applied for the purpose intended. This finish should prevent concrete from sticking to the plywood forms.

Another method of coating is to spray the edges while the panels are stacked evenly. Then coat the flat sides by running the panels through a roller coating machine.—*L. D.*

Some stencil work can be replaced to excellent advantage by silk screen processing. Saves time and material and produces a much better job.

Carbonizing Birch

We are interested in receiving information in connection with the carbonizing of wood, such as birch, and will appreciate your forwarding any material which may be helpful, or send us the name of someone who can supply such information. — *S. Cabinet Manufacturing Company.*

I am not sure that I understand just what you mean by "carbonizing" of wood, such as birch.

Several years ago a furfural alcohol material was applied to birch and maple furniture used in office, dental and medical furniture. It was available only in black, and this may be one of the reasons why it gained so little popularity. It was really a brown finish, but due to the many coats which were required, the color went over into the black.

This finish, it is said, would withstand acids, alkalies, practically all solvents, and it was flame resistant. The number of coats ranged from six to ten, depending upon the degree of resistance desired. Also, as I understand it, this finish had a tendency to make such woods as birch and maple even harder in texture than the natural wood.

It did not gain much popularity, due to the lack of color choice, and because it was relatively expensive, due to the number of coats required. If something like this is what you have in mind, you might contact your supplier of finish materials first; if he cannot furnish the material then contact other advertisers in this magazine who offer finish materials for the wood industries.—*C. F.*

Lacquer Blushing

We manufacture occasional tables, and would appreciate information on a chemical or know-how to do away with blushing during very humid weather. We are using a retarder thinner but it is not doing the job. We would appreciate this information as soon as possible.—*B. Furn. Mfg. Co.*

At a recent gathering of a well known metal finishing group the subject of lacquer blushing received a thorough airing. It was an amazing situation to find that an age old problem of this sort, which had probably been encountered hundreds of times by members of this particular association, still remained a veritable mystery to so many. Of course, all of them knew that some "retarder" added to the lacquer solvent would help eliminate the problem, but the actual mechanics of the causes of blushing and how the suggested remedy worked were generally unknown.

Some of those present actually stated that on days when lacquers or

WHAT'S THE BEST WAY TO STRIP METAL PARTS IN LARGE VOLUME?
See page 9

Are you looking for better methods for stripping paint?

Do some finishes resist your present stripping methods? Do rejects form a bottleneck in your production line?

Oakite's FREE booklet on "How to STRIP PAINT" will help you find more efficient procedures. You'll want to read more about: The best way to strip parts too large to be soaked in tanks (*see page 3*); The best way to strip large areas of structural metal (*see page 5*); What strippers are best for oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-based paints . . . Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas (*see page 12*).

FREE For a copy of "How to STRIP PAINT" write to Oakite Products, Inc., 32F Rector Street, New York 6, N. Y.

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lacquer enamels tended to blush, this type of material (lacquer) was not used for the balance of the day. In one plant no spraying at all was done on warm humid days. This may seem unnecessary retrogression to the dark ages of finishing.

Everyone is familiar with the sight of water condensed on the outside of a glass of a cool summer drink. The temperature of the glass is below the dew point of the atmosphere. That is, the amount of moisture or humidity is greater than the saturation point of the temperature of the glass. Thus water condenses on the glass. This same phenomenon is the greatest cause of lacquer blush.

When a lacquer coating is sprayed on to a metal or wood surface, some of the active solvent evaporates very rapidly. This rapid evaporation, similar to alcohol placed on the skin during a rubdown, produces a cooling action. The resulting condensation from this cooling reacts with the nitrocellulose or other resins in the lacquer and produces precipitation or "throw out" of the cellulose or gum material.

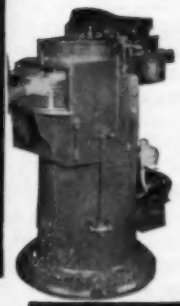
Precipitation of this type, which is known familiarly as "blushing", gives a white or opaque film, with little or no strength and durability. A secondary cause of blushing may be seen when the active solvent evaporates more rapidly than the non-solvents in the lacquer, leaving the non-solvents (diluents) in contact with the nonvolatile or resin constituents of the lacquer. Blushing or precipitation is a natural consequence.

The most generally used method for overcoming this costly problem is to add "retarders" to the lacquer. This material (retarder) is exactly what its name implies. *It consists of a higher boiling, slower evaporating solvent which retards or slows the evaporation rate of lacquer thinner used, and consequently also retards blushing.* While there is no real sub-

RONCI SPEEDIP WHIRL ENAMELER

Made in Three Sizes, R-100, R-200 and R-300 Capacities 312-cu.in. to 4400-cu.in.

IDEAL FOR LACQUERING AND ENAMELING PARTS UP TO 20 INCHES IN LENGTH



CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to hundreds of lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

Prompt Deliveries

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

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stitute for a well balanced retarder, as supplied by any reputable lacquer manufacturer, it may sometimes be necessary to use a quick expedient.

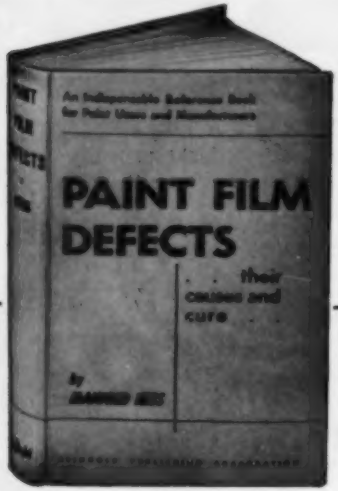
Butyl acetate is probably the most easily obtainable solvent which can be used for the purpose. An addition of 10% of butyl acetate to ordinary lacquer thinner should give sufficient retarding action, but more can be used up to 100%. The latter extreme is not normally recommended however. Butyl acetate has the excellent properties of slower evaporation and greater water tolerance, which permits water to escape from the lacquer before the butyl acetate itself, and before the film itself has set up.

On some hot humid "dog days" of summer it sometimes appears as if retarders alone will not solve the blushing problem. Some finishers have found that heating the surfaces to be coated to a temperature of about 20° F. above room temperature will help. So, if the solvent evaporation should cool the work about 15° F., it would still be higher than the temperature of the room, and consequently higher than the dew or condensation point.

High atomization of the sprayed film may increase the rate of evaporation, and this also increases the possibility of blushing.

Suspension of coating production because of blushing is too serious and costly. In instances of extreme conditions, such as proximity of spray booths to plating tanks, the suppliers of lacquer materials should be consulted. With the laboratory advances of recent years, most conditions can be and should be overcome to insure the finishing quality and efficiency which today's customers demand.—*Norman I. Gaynes.*

Metal surfaces must be thoroughly clean before applying any finish.



HERE ARE enumerated in this remarkably valuable book of 544 pages, all of the common and a variety of unusual and seldom heard-of defects and objectionable features that occur in paint, varnish, lacquer and synthetic enamel finishes; their probable, possible or real causes given; the effects described, and means of preventing and remedying these troubles fully outlined.

Chapters deal with these defects and troubles as they occur, 1) during or as a result of storage and preparation of materials before finishing; 2) when the materials are applied by various production methods and equipment, 3) during handling, processing or drying after application; and finally, 4) when and after the finished goods are shipped, displayed, stored or placed in service.

Defects covered include many more than could be named here, but to mention just a few there are; runs, sags, tackiness, films, too thin or too thick, slow drying, orange peel, alligatoring, wrinkling, pimples in films, pinholing, cracking, blistering, lifting, bleeding, blushing, blooming, discoloration, rainbow effects, gloss and dull areas, grained appearance, and scores of others.

Practical information is also revealed in reference to safety precautions to prevent fires or accidents in paint shops and finishing rooms, skin troubles of workmen, poison from paint materials and fumes.

By referring to the "Subject Index" of 34 pages in back of the book, it is possible to locate quickly, the answer to any particular failure, cause or remedy.

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Multicolor Finish Story In Nov. Challenged

IN THE NOVEMBER, 1954, issue of *Industrial Finishing*, pages 74, 76 and 78, I read the article entitled "Technique of Handling Color Flecked or Multicolor Finish", by Norman I. Gaynes. Please see our ad on page 99 of the same issue, and all previous Plextone ads, wherein we have adopted and used the word "color-flecked" to prefix our trade mark.

Certain statements made in this article with regard to multicolored finishes are misleading and could easily tend to adversely influence your readers to detrement of our company.

In the first paragraph of this article the author states that "lack of adequate information regarding its handling and usage has caused much irritation among both manufacturers and potential users". As you may, or may not, know we were the first company in the United States to manufacture and sell multicolor finishes on a national basis, and have many years of practical experience.

At this juncture in our activity with Plextone we do not feel that we suffer a "lack of adequate information regarding its handling and usage" in reference to the particular grades that we now manufacture. Moreover, to the best of our knowledge, our customers "and potential users" of Plextone do not suffer from a "lack of adequate information", since we consider that the technical data we supply is adequate.

The author goes on to say that "the basic concept, for most, are very similar if not the same". Based on the phenomenal success that we have had with our multicolored finish we do not think it is a foregone conclusion that all other manufacturers of multicolored finishes are likewise encountering phenomenal success, hence, it should not be deduced that our

multicolor finish is the same as all other multicolored finishes. While we recognize the author cautiously used the words "for most" we feel that this statement can easily be misconstrued to infer that all multicolored finishes are the same. This we strongly take exception to.

Another statement that the author makes to which we take exception, is that regarding "package life stability". Plextone multicolored enamels have good package life stability. We say that our material is stable for approximately three months and we know of many cases where it has been used after being stocked for over one year, and the resultant finish was entirely satisfactory and acceptable to the user.

Three months stability of ordinary organic coatings, other than the multicolored type, is not uncommon. Innumerable synthetic finishes and metallic enamels being manufactured and sold in commercial quantities today, have not over approximately three months storage stability life. The author implies that this is peculiar to multicolor finishes and therefore makes a most misleading statement.

The author further states that "freezing will cause merging of the particles, while a heat of 100° F. or more would probably cause coagulation or jelling in the containers". We consider that neither of these statements pertain to Plextone. It only tends to highlight the author's own "lack of information" that he referred to in the first paragraph of his article. Plextone has been used to the satisfaction of the user and of this company after it has been frozen. It is only after the frozen material is properly handled in accordance with the suggestions that we offer our customers, that it may be used without any fear of color or pattern disparities.

Likewise, our experience is not consistent with the author's statement that a "heat of 100° F. would probably cause coagulation and jelling in the containers". Plextone has been exposed to temperatures higher than 110° F. without coagulation or jelling in the container.

We feel that we should bring this to your attention as the author has unquestionably erred in the various statements that he has made.

Surely you must appreciate our position as to how mis-statements regarding the field of multicolored finishes can be damaging to us in regard to our multicolor finish.—*B. F. Ames, General Sales Manager, Maas & Waldstein Co.*

United Lacquer Enlarges Plant

United Lacquer Mfg. Corp., Linden, N. J., announces that it has added 14,000-sq. ft. of manufacturing space and 40,000-sq. ft. of storage space at its Linden plant in order to meet constantly increasing demand for its products.

The increased manufacturing space will be utilized for new machinery and equipment for increased production as well as an expansion of United Lacquer's research facilities. With the expanded facilities, United's control laboratory can now simulate any customer problem on a pilot operation in order to anticipate difficulties and find solutions before they have become major production bottlenecks.

The company will be able to maintain a larger stock of standard items. At the same time, production of baking and air dry enamels, hot and cold furniture lacquers, Multakolor (which gives two or more colors in one spray application) and the thousands of finishes manufactured to users' specifications will be greatly speeded.

Gauger Is Made Tech. Dir. of Pacific Paint & Varnish Co.

W. T. Butner has announced the appointment of Edward A. Gauger, Jr., as technical director of Pacific Paint & Varnish Co., Berkeley, California. Ed is a graduate of the Illinois Institute of Technology and has had several years of excellent experience in the industry. He is well qualified to take over the position of technical director from W. R. Rhoades who was recently appointed general manager of Sears Texas plant, the DeSoto Paint & Varnish Co.

Materials Supplies Equipment

New Moisture, Oil Separator For Compressed Air Processes

A new heavy duty, high capacity moisture, dirt and oil separator for compressed air lines and equipment is announced by Beach Precision Parts Co., 120 Mechanic St., Boonton, N. J.

Model No. 125S has been added to the Beach line of compressed air separator equipment to provide a 125-c.f.m. at 100-lbs. pressure. Other models are designed to handle 30, 65 and up to 300-c.f.m.

Chlorothene, a Safe Solvent

A new solvent, Chlorothene, is now available as a replacement for carbon tetrachloride. It is non-toxic and non-flammable; is inhibited against corrosion or attack on aluminum and most other light metals, therefore it is safe to use for cleaning parts in the cold phase, for electric motors and similar industrial equipment. It will dissolve most fats, oils, greases, cumar resins, ester gum and rosin.

For additional information, write The Solvents and Chemical Group, 2540 W. Flournoy St., Chicago 2, Ill., or contact the closest member of this group as listed in the company's advertisement.

Concealed Automatic Spray in New Decorating Machine

A new stationary gun pressure contact spray decorating machine for painting areas up to 3 x 1½-in., has a capacity of as many as 1500 pieces per hour, depending upon the shape and size of the part.

This machine, developed by Conforming Matrix Corp., is excellent for painting depressed or raised spots on die casts, fine detailed dials and on control knobs, doll's eyes or mouths, or bumper guards, headlights and the radiators an toy automobiles and the like.

Placing the part into the mask and depressing the table top about ¼-in. starts the paint operation. A timer controls the length of time that the gun is spraying so that exactly the same amount of paint is applied to every piece, regardless of the rate of operation. A regulator and gauge maintain constant air pressure to the timer. There is also a regulator and a gauge for atomized air which controls the accuracy of the gun.

The floor space required is only 18 x 26-in. The machine is 36-in. high to the center of the mask plate. The mask measures 4 x 8-in. and is held in place by swivel spring tension clips. The gun is adjustable to several positions.

A battery of these readily portable machines, each painting a different part, requires small space, and a general exhaust system may be used in tandem.

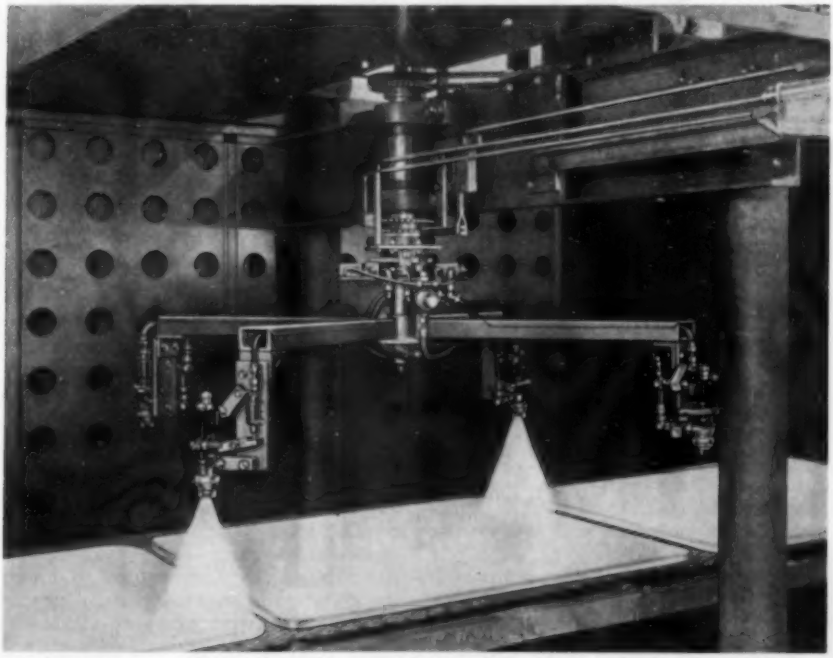
The machine is available with one or two guns in a stationary position. It is self-contained and completely enclosed. Working parts cannot become contaminated by the exhaust. A built-in air exhaust outlet 8-in. in diameter is big enough to handle 900-cu. ft. per minute for single gun operation. The two gun models are engineered accordingly. Customer's exhaust systems are utilized, unless separate exhaust system is requested.

Air is drawn across and under the top of the machine from the front, and exhausted from the rear. An agitation type mask-washing device can be incorporated. A circulating paint system or agitating paint tank facilities are recommended for paint that readily settles out. Under the spray gun, there is a sludge tray for removing the overspray that has settled to the bottom. No exposed operating mechanism is inside the paint chamber. Pipe fittings for air and paint lines are on the back panel.

A free brochure on the machine will be sent to anyone addressing their request to Conforming Matrix Corp., 331-2 Factories Bldg., Toledo 2, Ohio.

Binks New Rotary Automatic Spray Painting Unit

Something really new in the way of automatic spray painting machines has been developed and is now offered by Binks Mfg. Co., 3116 Carroll Ave.,



The four spray guns, each mounted at the end of a rotating arm, are closely synchronized with the speed of the conveyor and the width of the product. The guns operate only when they are directly over the ware being painted. Overspray is reduced to the minimum.

PRODUCTION COSTS ARE REALLY LOWERED WITH

NAZ-DAR Weatherproof Silk Screen Enamel delivers more printed area at greater opacity than any other brand. It's a marvelous Silk Screen production ink for TV SETS, NAME PLATES, TOYS, DIALS, ASH TRAYS, and CHASSIS.

Write Dept. I-2

Another "Business Building" Ink by NAZ-DAR

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461 Milwaukee Ave. • Chicago 10, Ill.

Chicago 12, Ill. It is the Binks Rotary Spray Painting Unit for use on flatware.

Until now automatic reciprocating machines have been used exclusively for this purpose. In these machines, the spray guns move back and forth in a straight line at right angles to the conveyor belt.

The new rotary spray machine consists of four rotating arms mounted on a revolving vertical spindle. An automatic spray gun is mounted on each of the four arms. The guns travel in a circular path above the conveyor. The diameter of the circle travelled by the spray guns is approxmately 24-in. wider than the maximum width of the ware to be sprayed. For example, if the ware is 30-in. wide, the guns travel a circle 54-in. in diameter.

The guns operate only when they are directly over the ware. Each gun turns on automatically when it approaches the edge of the product, and shuts off as it leaves the product. The distance between the points where the spray turns on and off is called the "spray width." The distance can be adjusted for various products while the machine is in operation.

According to the manufacturer, this new machine has three major advantages over previous automatic equipment: 1) It can apply coatings at extremely high conveyor speeds. Good results have been obtained with the conveyor running as fast as 100-ft. per minute. 2) The amount of finish applied to the surface can be closely controlled by varying speed of the rotary head. This is done easily with a precise variable speed drive. 3) Binks engineers point out a reduction in maintenance. Fewer moving parts are

in the new rotary spray painting unit and they travel at slower speeds.

The new unit is also available as a conversion unit. In many cases the mounting channel, spray guns and motor of the standard Binks Automatic Reciprocating Machine can be used in the Rotary Spray Painting Unit.

Spray Booth Water Filter

How do you remove sludge from your water spray booths? A continuous, automatic, self-cleaning filter called "Delpark" skims off paint sludge and deposits it in a container outside the spray booth. The accumulated overspray does not settle to the bottom of the tank. The treated water is filtered so it remains clean. No sludge particles are carried through the system to clog nozzles and call for periodic cleaning of the tank.

For complete information, write Industrial Filtration Co., Lebanon, Ind.

Burn-Resisting Clear Finish For Wood Surfaces

An entirely new and vastly improved type of finish has been announced by V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Ill.

Marketed under the name of Dolvar, this product is a burn-resisting, water white, catalyzed, clear, synthetic hi-solids finish for wood. Subjecting the finish to a burning cigarette for two or three minutes will neither blister nor mar it.

Dolvar positively will not cold check, print, soften or pad mark. It is highly resistant to alcohol, water, nail polish, lacquer thinner, etc.; is water white and non-yellowing, and may be baked or air dried.

The finish coating produced by this new synthetic material is exceptionally suitable for use on cocktail tables . . . . as well as for other furniture to be used in the home and in public places.

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OVENS

Continuous monorail conveyor paint baking oven.

• Young Brothers Ovens improve the quality of your products since they are engineered and built to meet the most exacting requirements of every baking and drying process.

Experience gained in over 50 years developing Batch and Conveyor Ovens for new processes, materials and products is your assurance of outstanding performance. Find out how you can benefit through saving in time, labor and lower costs by installing Young Brothers Ovens. Write for Bulletin 4 today!

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1835 COLUMBUS ROAD
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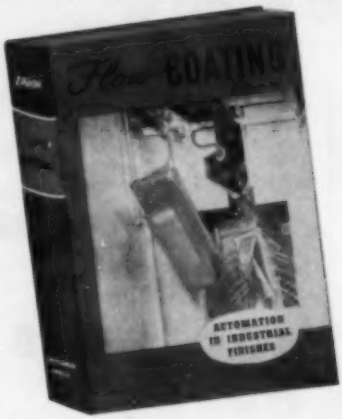
Estab. 1896

FLOW COATING BOOK



Mr. Zahn, the author of "Flow Coating", says that any product which can be dipped or sprayed can be finished by the flow-coat method. His new book contains 296 pages 5¼x7¾-in.; 13 chapters.

The great range in new kinds of solvents now available, plus phenolic-base resin paints and vinyl type paints which have been so successful in the flow-coating method of application, presents endless possibilities for profit. The industrial user can now afford to pay a little more for better materials and profit by a higher quality product.

"Flow Coating" explains the various industrial painting methods such as: dipping, spraying, electrostatic, steam, roller coating, centrifugal, hand spraying, automatic dip and many others. Direct comparisons between flow coating and these methods are dealt with in detail.

Mr. E. A. Zahn has spent 25 years in research on industrial paints and application methods. He is the inventor of the Zahn Viscosity Cup, and has acted as consultant to many manufacturing concerns. In 1938 he received the Charles A. Coffin award for contributions made to the electrical industry. Mr. Zahn has been associated with General Electric for 25 years and is at present Organic Finishing Engineer at General Electric's Appliance Park, Louisville, Ky.

Price $6.50—Money Back Guarantee

INDUSTRIAL FINISHING
1142 N. Meridian St. Indianapolis 4, Ind.

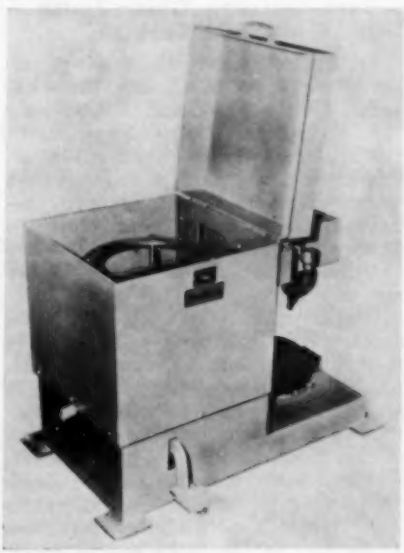
Sand Blasting Machine

A redesigned small sand blasting machine has large wide viewing glass, giving full vision of interior, fully enclosed cabinet design and movable nozzle suspended from the top of cabinet. Available in three stock sizes. For full details, write Leiman Bros., Inc., 146 Christie St., Newark 5, N. J.

Centrifugal Fast Dryer For Small Parts

Metal Finishing Mfg. Corp. has developed the new Placo Centrifugal dryer. It has a speed of 865-r.p.m., and will handle loads up to 50-lbs. High centrifugal force holds parts immovable to give smooth lustrous dried surfaces with a minimum of scarring or marring.

An explosion proof motor and switch, and heating units for gas or



Dries small parts rapidly and safely.

Available in 9 convenient packages from 2 oz. to 50 gal. drums, DURATITE 3026 White Glue has improved versatility to produce better products at lower cost all the year 'round for the small package user. Resists high forced baking temperatures and is unaffected by repeated freezing and thawing. Always ready to use with quick, uniform setting regardless of shop temperatures. Extra strong DURATITE 3026 White Glue withstands up to 3000 pounds shear per sq. in.... sets in 15 to 20 minutes under mild pressure... ideal for all wood fabrication from wood joints to laminations and veneer, gluing synthetic and composition woods.

Write for descriptive literature and prices.

WEBB PRODUCTS CO. *Manufacturers of fine surfacers and adhesives since 1923*
San Bernardino, California • Norcross, Georgia

Plastic Duratite Wood Dough and Surfacing Putty are both water and weather proof with less than 1% shrinkage!

steam are also available. The Placo dryer replaces sawdust and compressed air in the drying of small parts. It can be used for larger parts by means of special baskets and holders.

Additional information can be had from Metal Finishing Mfg. Corp., 89 N. 11th St., Brooklyn 11, N. Y.

Emulsion Cleaner-Degreaser

Kelite MD-1 is a dust-free powder composition—freely soluble in water—exhibiting high surface activity and great cleaning efficiency in the removal of protective mill oil from steel.

Kelite MD-1 is used as a tank immersion cleaner at 160° F. to 180° F. The cycle employed is 0.5 to 3.0 minutes depending upon the amount and tenacity of the soil present. MD-1 is especially effective when using the Keykote process to deposit a molybdate coating prior to painting.

Kelite MD-1 is strongly buffered and accordingly exhibits a fairly constant pH over a wide range of concentration. The product has exceptional ability to suspend soil and in the recommended concentration exhibits good cleaning ability for intervals of one month or more. Complete data on MD-1 is available from the manufacturer, Kelite Products, Inc., 1250 N. Main St., Los Angeles 12, Calif.

Tank Heat Exchanger Cuts Maintenance Costs

Platecoil, a product of Tranter Mfg. Co., Inc., Lansing 4, Mich., consists of two embossed sheets of metal welded together to form channels for passage of heating or cooling media. These units are said to reduce main-

BOOKS On Finishing Available

"MODERN ORGANIC FINISHES—Their Application to Industrial Products" (452 pages) new	$8.50
"Flow Coating," (296 pages) new	6.50
"CHEMICAL FORMULARY" (Vol. IX) (Preceding Volumes also available, same price)	7.50
"FINISHING METAL PRODUCTS"—2nd edition (352 pages)	6.00
"PRACTICAL FURNITURE FINISHING" (112 pages)	1.75
"FURNITURE FINISHING (543 pages)	5.00
"SPRAY PAINTING"—Industrial and Commercial (169 pages)	2.50
"COLOR DECORATION AND DESIGN" (200 pages)	3.00
"THE MIXING OF COLORS AND PAINTS" (302 pages)	3.00
"WOOD FINISHING" (361 pages)	3.00
"NATIONAL PAINT DICTIONARY" (704 pages)	7.50
"MODERN POLISHES AND SPECIALTIES" (313 pages)	7.50
"GRAINING"—Ancient and modern (224 pages)	5.00
"THE SILK SCREEN PRINTING PROCESS" (225 pages)	5.00
"SCREEN PROCESS METHODS OF REPRODUCTION" (252 pages)	4.00
"THE SCIENCE OF WRINKLE FINISHING" (204 pages)	5.00
"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages)	7.50
"PAINT & VARNISH TECHNOLOGY" (509 pages)	8.00
"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages)	1.75
"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages)	12.00
"INDUSTRIAL SOLVENTS" (764 pages)	12.00
"FINISHING MATERIALS AND METHODS" (320 pages)	4.00

Cash Must Accompany Order—
Send for Descriptive Circular

INDUSTRIAL FINISHING
1142 N. Meridian St. Indianapolis 4, Ind.

tenance, cleaning and replacement costs to a minimum.

In open tank installations the units are made in header construction with steam and condensate outlets in upright positions at the top of the unit so that no threaded joints are below the level of the solution in the tank.

This feature is of special importance in some tank installations, where pipecoils continually give trouble as the solution attacks the threads.

In a 200-gallon alkali cleaning tank the solution may be held at 210° F., with 90-lbs. steam by a platecoil installed at one end of the tank. The unit may be operated for more than two years without removal for any reason.

Rubber Inserts for Drums

The production of removable rubber inserts known as Drumserts for standard 55-gallon drums is announced.

These inserts are pre-formed, independent linings made of Arco-compounded neoprene or sheet rubber. They can be inserted in any standard drum simply and quickly. The rubber insert is merely set in the drum and the lip provided on the insert is lapped over the top of the drum and

Rubber linings are easy to put into drum.

PROTECT LUNGS *against*
PAINT SPRAY - DUST - FUMES

DUPOR No. 4 RESPIRATOR has big double filters for easy breathing and greatest filtration! Soft rubber face mask gives airtight fit. Patented DUPOR valves bring in clean air—throw off breathed air! Weight 4 oz. Economical! Costs only $2.00 postpaid. Order Now!

H. S. COVER, South Bend, Indiana

pulled taunt. This permits it to grip the drum and maintain a stationary position regardless of handling. Rubber snap-on lids are also available.

Through the use of these inserts any standard 55-gallon drum is capable of holding acids and other corrosive materials.

Additional details can be had from Automotive Rubber Co., Inc., 12550 Beech Road at P.M.R.R., Detroit 39, Michigan.

Masked Metal Labels

Pre-Masked Metal-Cals, for application to unpainted surfaces, are the latest development of the C & H Supply Co., 415 E. Beach Ave., Inglewood 3, Calif. The thin anodized, etched aluminum name plates are completely masked to allow painting of an article after the trademark or label is applied. This allows the paint to build up around the edge of the trademark and makes it an integral part of the item to which it is affixed.

Peel mask off label after painting.

The top mask is easily peeled off after painting. These labels are backed by a pressure sensitive adhesive which makes them permanent, as well as easy to apply without screws or rivets. They come masked or unmasked in a wide range of colors and with a highly reflective or matte finish. They may be applied to any smooth curved or flat surface.

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A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.
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CUT FINISHING COSTS THROUGH INCREASED PRODUCTION
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MASK WASHING MACHINES
50% faster than any other make. Cut solvent consumption. Avert production delays due to damaging of masks by hand scrubbing.
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A competent engineering staff will counsel with you on the most efficient technique for handling your particular requirements.
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Increase production hundreds to one over hand methods. Reduce labor costs. Eliminate need of experienced workmen.
CLAMPS AND FIXTURES
Positive pressure and exact registration of the part in the mask. Reduce rejects. Free both hands for productive movements.
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CONFORMING MATRIX CORP.
331 Toledo Factories Building
Toledo 2, Ohio

NEW PAINT STRIPING IDEA . . . Works Faster, Easier, Better!
MASTER PAINTERS' STRIPING TOOL
Easy to Use as a Fountain Pen
Men in every branch of industry now rely on Master Painters' Paint Striping Tools to aid in turning out cleaner work in a fraction of the time and with a fraction of the effort.
This amazing tool paints straight or curved lines with equal facility. No smears or smudges. Uses any kind of paint, enamel or lacquer. Newest model paints DOUBLE parallel lines . . . wide or narrow or both —with one operation. Does a big job in large or small shops.
Write for PICTURE FOLDER with prices and descriptions — all sent FREE.
USE FOR STRIPING
• Furniture • Wallboard
• Toys • Bicycles • Signs
• Scoreboards • Ceramics
• Lampshades • Autos
— anything and everything that requires clean, accurate striping with paint, enamel or lacquer.
FREE ENGINEERING SERVICE
If you have any paint striping problem, our staff of experts will be glad to cooperate with you. No cost or obligation.
WENDELL MFG. CO. 4234 N. LINCOLN AVENUE Dept. 912 CHICAGO 18, ILL.

"Strypp-Away," New Cleaner Removes Tough Finishes

"Strypp-Away", a new, modern heavy duty, liquid stripper to remove tough, modern finishes like Epons and other chemically resistant finishes is now offered by The Du Bois Co., 1120 W. Front St., Cincinnati 3, Ohio, and Los Angeles, manufacturer of chemical cleaning compounds for industry and institutions.

"Strypp-Away" may be used directly from the container or diluted with water, depending on the job to be done. It will hold up for long periods of heating without loss of strength and may be used at temperatures as high as 220° F.

Film Thickness Tester

A magnetic thickness tester for electro-deposited, hot dipped or painted coatings on steel has been developed.

This Pocket Handi-Gage is calibrated against National Bureau of Standards thickness plates. Not much larger than a fountain pen, the device will test thickness from 0.0001-in. to 0.15-in. Extra magnets are furnished for various thickness ranges.

For details: Gardner Laboratory, Inc., 4723 Elm St., Bethesda 14, Md.

Multi-Phase Metal Cleaner

A new and effective spray type cleaner that now combines solvent, wetting agent and alkaline as a multiphase cleaner is announced by Van Straaten Chemical Co., 83 W. Washington St., Chicago 2, Illinois.

The new cleaner, Vantrol 5618, is especially effective on steel. In addition to its effective removal of shop and mill oils, drawing compounds and heavy greases, this cleaner also has the added values of rust protection.

Impregnate Al. Castings

MICROSCOPIC PORES in cast instrument components, a vexing problem in airborne fire control systems, has been solved by Farrand Optical Co., Inc., Bronx, N. Y., with an impregnation process, developed by American Metaseal Mfg. Corp., West New York, N. J. Because efficiency and accuracy of the system depends on complete pressure-tightness, Farrand engineers realized that leakage due to microporosity in the system's cast aluminum components must be completely and permanently eliminated.

Farrand designs and develops the equipment for the Air Force and other services, integrating optical, mechanical, and electronic components into single systems. . . . Cast metal housings, covers, and other parts of these systems are impregnated using Metaseal materials and equipment to assure pressure-tightness and prevent internal corrosion stemming from microporosity.

The Metaseal process uses a batch-type vacuum - pressure method designed for simple one-man operation. Farrand castings are placed in an autoclave; this avacuates any pore connected to the surface of the casting. The impregnant is introduced to the autoclave and compressed air is applied to force it into the evacuated pores. Pressure is released, the castings are removed from the autoclave and cleaned. A curing operation solidifies the liquid impregnant which has been absorbed into the

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★ FROM ROUGH GLAZE TO MIRROR FINISH
★ MAXIMUM EFFICIENCY
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CLAIR MODEL 203
SURFACE FINISHING MACHINE

Vacuum chuck solves problem of surface finishing non-magnetic items, including brass, copper, silver and aluminum. Work surface is 38″ wide x 48″ deep.

Write for Bulletin 203

A FEW APPLICATIONS
Compacts, cigarette cases, lithograph sheets, flatiron sole plates, blanking stock, kick and push plates, fan blades, name plates, escutcheon plates.

CLAIR
MANUFACTURING CO., INC.
Specialized Machine Equipment For Glazing and Polishing Operations
OLEAN, N.Y.

metal structure. The cured resin is resistant to a wide range of acids, alkalis, solvents and other chemicals.

S-W's "Stir-In" Colors

A new line of "Stir-In" pulp colors recommended for use in latex emulsion paints of all types is being offered by the Pigment, Color & Chemical Division of Sherwin-Williams Co., 100 Park Ave., New York 17, N. Y., or 300 W. Lake St., Chicago 6, Ill. These colors will not settle out during normal storage.

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Abrasives
Brushes
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Foods
Glass
Leather
Lumber
Paints
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HEATING PANELS

. . . are the solution to many industrial heating problems

Radiate a perfectly flat, even pattern of intense infra-red heat with no blind spots. Heat radiates directly on the work—no expensive waste of heat through the back of the panel. Flat, thin strip design permits closer application to the work—reduces heating costs and speeds production. Absence of reflectors reduces installation costs—cuts maintenance time—insures maximum performance on long production runs. No down-time to clean reflectors.

Write today for complete catalogue data—FREE

SYNTRON COMPANY
414 Lexington Avenue Homer City, Penna.

Flock Coating on Cast Aluminum Parts

IN RECENT YEARS flock has gained much popularity in the industrial field, and is currently being used for many jobs for which it was not practical in the past. This is due to new developments in flock finishing technique and the advent of new synthetic fibers from which flock is cut.

One mid-western manufacturer had an unusual problem of finishing the impellers of a blower. This blower consists of two intermeshing multiple involute impellers which force the air trapped between them through the outlet under pressure.

The impellers are cast of aluminum in precision molds, but the tolerance between the surfaces cannot be held very closely without additional finishing of some sort —and without the surfaces mating perfectly the blower would not be efficient.

In order to machine finish this complicated surface, a special machine would have had to be designed and the whole process would have been very expensive.

Further, expe-

riments indicated that the noise level of the rotating parts would be so high that it would be a negative characteristic of the unit.

The problem was to find some method of finishing these parts that would deaden the sound, fill the tolerance between the impellers, and yet give a tight seal. Additionally, the material would have to be resistant to abrasion, be water repellant, easy to handle and apply, and as inexpensive as possible.

After considering many materials, the engineers decided to investigate the possibility of using flock.

Surprisingly enough, they found that the standard flock offered by one manufacturer had all the characteristics required; and after considerable testing, they discovered that not only had the noise level been considerably reduced, but the space between impellers became tightly sealed and the blower had an increased displacement.

In this case, flock was applied to all surfaces of the blower impellers, including the ends. It was not necessary to apply flock to the casing since this was easily machined to tolerance, and the flock filled in that space also.

After the aluminum is cleaned and the adhesive has been sprayed on, flock is sprayed on the adhesive-coated surface with a standard flock gun. After drying, the excess fibers are removed by blowing with compressed air and brushing.

The flock actually intermeshes with itself as the impellers rotate, creating a tight seal between the impellers. The clearance between the casing and impellers is likewise filled, thereby creating a tight fitting unit that operates efficiently and quietly. The use of flock here did not present any problem in application.

The application of flock to these units is now a standard operation with this manufacturer. It all goes to show how a little creative thinking saved a considerable amount of money and actually increased the efficiency of the blower.—*R. J. Steinfield.*

PEARL ESSENCE

"Astralucine Brand"
Produces a high luster
on a variety of finishes

Write for your free copy of our informative Technical Bulletin
"Pearl Essence Finishes"
—what they are and how to use them.

Argenta Products Co.
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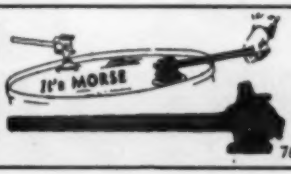

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Allow for Pressure Drop in Hose Line

DO YOU KNOW the actual atomizing pressure used on your spray guns? Both air and fluid pressure are highly important in the application of a quality finish, and in the economical operation of any spray gun. Atomizing and fluid pressures are closely related. These pressures are directly dependent upon the nature of the paint or finishing material being sprayed and its viscosity.

Basically, fluid pressure is intended only to force a sufficient volume of paint from the pressure tank to the spray gun to correctly coat the product. The air pressure used must be sufficient to atomize this volume of paint.

The reading on your transformer air gauge may fool you even though it indicates air pressure correctly. *It shows the air pressure at the transformer*, but that is not necessarily the air pressure at the spray gun where that compressed air is atomizing your paint. The force of compressed air diminishes in a long hose or pipe line. Do you know that when you are using a ¼-in. (inside) diameter air hose there is a pressure loss of nine tenths of a pound (0.9-lbs.) per foot of hose?

Suppose, for example, the transformer air gauge indicates a pressure of 50-lbs., and the ¼-in. hose between the transformer and spray gun is 10-ft. long. Actually, the air pressure at the spray gun will be only 41-lbs. — 9-lbs. less than what is shown by

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Nox-Rust's Vapor-Wrapper is a chemically treated paper that instantly releases an invisible rust-preventive vapor. The vapor mixes with moist air, rendering it non-corrosive to iron and steel. Thus Vapor-Wrapper provides fast-acting, long-lasting protection in production, transit, and storage.

Products protected with Vapor-Wrapper are clean, ready to use. There's no mess, grease, or goo; no expensive degreasing or cleaning is needed. Vapor-Wrapper is as easy to use as wrapping paper, and costs little more.

Write for Bulletin with complete information. Address Dept. IF-124.

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the air gauge at the transformer. Now this may or may not be sufficient pressure to correctly break up your coating material being sprayed.

Do you maintain practically the same atomizing pressure at all spray guns, regardless of the length of air hose? It's something to think about; it's something to investigate—and then make proper adjustments to allow for pressure drop through various lengths of hose.—*T.M.*

Consult the Experts for Production Know-How

SOMETIMES FREE advice proves very costly. Unless there is a trained, well rounded, experienced finishing consultant within the plant's organization, the solution to any finishing problem should be left to a reliable firm of finishing engineers.

Let us take for example a manufacturer of wood products such as silver chests, cigarette boxes, jewel cases, all of which are now finished. Plant personnel is familiar with woods and the finishing of wood.

Then management sees an opportunity of securing business in the wood toy field. They immediately become mass production minded. They explore the possibilities of an automatic system for finishing wood parts similar to those used for metal parts. They seek advice from various sources. After receiving various and sundry answers to their problems, they endeavor to install the very best possible system for finishing the toy parts, always keeping in mind the need for large production and low cost.

tough stripping problems?

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Now the finishing of wood, even toys, presents entirely different problems than the finishing of metal and some plastics. Finishing engineers know these differences, they know the best system to use, and the correct equipment to install to accomplish the desired results.

This service costs money, but it is money well spent. Well intentioned advisors may suggest a system and equipment that will not give satisfactory results. Then this must be changed. As a result production is retarded, and more time and money are wasted than the cost of professional advice from a reliable firm of finishing engineers.—*J. J.*

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James B. Day & Co. Announces Two Important Appointments

James B. Day & Co., Chicago Ill., announces the appointments of Mr. Walter F. Zeil as Plant Manager and Mr. John P. Dwyer as his assistant.

Mr. Arthur T. Day, President, says, "Walter Ziel's 30 years experience and John Dwyer's 12 years experience in all phases of the paint, varnish and lacquer industry will be a great asset to the company". Their efforts will be directed toward developing, shipping and servicing additional and improved protective and decorative coatings.

Fred Harrington of Mo. Joins V. J. Dolan & Co.

In keeping with its expansion program, V. J. Dolan & Co., 1830 N. Laramie Ave., Chicago, Ill., announces the association of Mr. Fred Harrington, Jr., with the technical sales division.

Fred Harrington, of 7914 Delmar Blvd., University City, Missouri, has served the wood and metal industries in the central and southwestern areas for 24 years and his know-how and resourcefulness will continue to be available to his many friends in these areas.

Pennsalt Chemicals Acquires Gilron Products

To expand its extensive line of metal processing chemicals, the Pennsylvania Salt Mfg. Co. has acquired all patents and assets of the Gilron Products Co. of Cleveland, Ohio.

The products of Gilron will provide logical additions to Pennsalt's well-known Foscoat process line which was designed for heavy fabrication. Also included are Gilron metal cleaners which will supplement the present Pennsalt Cleaner line.

Random Comment on the Industrial Scene

(Continued from page 6)

Comparing today's situation with what was generally agreed to be a construction boom in the 1920's, Dr. Smith pointed out that when *increases in construction costs and growth of the nation* are taken into account, today's volume of construction is proportionately well below the peaks reached in 1926 and 1927.

"This year, 1954, total new construction will amount to $36 billion or so, setting a new all-time record for dollars spent . . . . but construction costs have nearly tripled since 1927."

* * *

"Quickspray" Stencil Inks in aerosol dispensers are now available in black, white, yellow, red and blue. This instant drying ink is for stenciling on paper, wood, burlap and metal. Also handy for color coding tools and metal stock; and for inspection marking and design layout.

* * *

Petroclean D-25, an industrial cleaner, will blend readily with any of the petroleum hydrocarbons, such as mineral spirits, varsol, varnolene or Stoddard solvent to form stable emulsions with water. When diluted with such solvents it may be used for manual cleaning operations, in dip cleaning or in pressurized spray systems.

The cleaner contains no chlorinated solvents, will not attack painted surfaces, is harmless to skin, and has a relatively high flash point.

If parts are not rinsed following application of the cleaner, the residual film provides a temporary rust preventive. A product of The Whistleclean Corp., 404 Fourth Ave., New York 16, N. Y.

Drum Heater. Do you want to warm the contents of a drum, or do you have a problem of melting or thinning wax, grease, oil, and other viscous materials in drums? The Pre-Fab woven electric heater has been developed to wrap around a 55-gallon drum.

Snap around drums; connect; turn on current.

Standard construction of the drum heater consists of alloy resistance wire, insulated with tough fibrous glass that will withstand 450° F. continuously. Drum heater sections are wired together in pairs to fit between the rings or chimes of drums. Three standard ratings are available . . . . Special heaters can be made to order. A product of Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.

No part is too small to finish in a dip whirl machine; just put them in a mesh bag if necessary.

Industrial FINISHING Editorial

Identify All Shipments; Mark Cartons Properly

In order that convenience, safety and speed shall be possible in the handling of all shipments of parts and products to and from factories, cartons and packages should be properly marked. Let's see what the Home Instrument Dept. of R.C.A. says about this:

"In the interest of properly identifying your shipments to our plants—also to eliminate delay in the receipt of your materials and the subsequent issuance of receiving sheets to our Accounts Payable Section, which is the basis for payment on your invoices—we are requesting all vendors to furnish the following pertinent information on all containers, either by means of a label, rubber stamp, or stencil:

1) Vendor's name.
2) Purchase order number.
3) Part number
4) Quantity in carton.
5) Cartons in shipment.
6) Weight (if convenient).

This marking should appear on at least one end of the carton, *never* on the top. In storage, when cartons with markings on the top side are stacked, their identity is lost. Further, at least one carton in each shipment should contain a master packing slip and that carton should be so marked legibly, especially in multiple carton shipments.

If these instructions are properly followed, we feel sure that it will eliminate excessive receiving and checking time and expedite the payment of your invoices."

Fire Starts Small But Gets Big Fast

Fire always starts in a small way. Two minutes later, it is three times as big. Two minutes more it is eleven times as big and only eight minutes after it starts, it is fifty times its original size. The neglected fire is therefore a dangerous fire. Even when an alarm is promptly turned in and response is speedy, fire departments, due to circumstances beyond their control, may be unable to get to a fire soon enough to prevents its rapid spread or loss of life.

Fire endangers lives, ruins property, removes a source of honest income, and is very upsetting and harmful in many ways. It is everyone's business to do whatever he can to help prevent a fire—and, if one does start, to help bring it quickly under control.

The factory that is kept clean and orderly, where preventative maintenance is a regular routine, and where

★★★ **INDUSTRIAL FINISHING wishes all of its friends a Merry Christmas and a Safe, Happy, Prosperous New Year**

safety practices are observed—this kind of plant is not so likely to have a fire. However, every such plant can be made still more safe—from the spreading of small fires that might start—by being protected with some approved form of automatic fire extinguishing devices or equipment.

A properly installed and maintained automatic sprinkler system, in all places where fire is likely to originate, will offset deficiencies in either fire-resistive or non-fire-resistive construction, and in many fire codes, it is an accepted substitute for other requirements for the safeguarding of life and property against the hazard of fire.

Use Proper Solvents to Reduce Blushing

★ Blushing is one of the most common complaints of lacquer users. There are various ways to deal with this problem. Often retarder is added to the lacquer. The retarder contains high boiling solvents which evaporate from the wet lacquer film more slowly than water does. Some companies use heat or force drying to lower the relative humidity; others use dehumidifiers. Some companies are able to shut down their lacquer coating department until the humidity goes down.

The problem of blushing is minor for some companies and quite a headache for others, depending upon their setup. At one company the foreman may add retarder when he sees the day is humid. At another plant the foreman will not have such foresight. One company may have a force drying setup. Another may not. Some companies are fortunate enough to be located in low humidity areas; others are not. So blush prevention is somewhat of an individual problem.

There is one thing that any company having considerable blushing trouble can do to ease the problem. That is to buy lacquers and lacquer thinners with slower evaporating solvents in them. The higher boiling lac-

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"Industrial Paint Samples 'Big Deal'," price 10 cents per copy.

"Force Drying Wood Finishes", price 10 cents per copy.

"Cleaning and Conditioning Metal Surfaces for Coatings", price 20 cents per copy.

"The Theory and Practice of Finishing Furniture" (Five Parts), price 20 cents per copy.

"A Half Decade of Finishing Progress," price 10 cents per copy.

"Tumble Finishing," price 10 cents per copy.

"Flow Coating as a Means of Paint Application," price 10 cents per copy.

"Stirring and Straining," price 10 cents per copy.

"A Method Engineer Analyzes Paint Selling," price 10 cents per copy.

"Preparing and Painting Metal Specialties", price 10 cents per copy.

"Flock (What it is, its appearance, its uses both for utility and decoration)", price 10 cents per copy.

"Filler, The Theory and Technique of Application", price 10 cents per copy.

"Finishing System for Magnesium", price 10 cents per copy.

"Rapid Electrostatic Finishing", price 10 cents per copy.

INDUSTRIAL FINISHING Magazine

1142 N. Meridian, Indianapolis 4, Ind.

quer solvents, which give protection against blushing, are higher priced than low boiling solvents. There is, of course, a practical range within which the formulator must work.

Too much of the high boiling solvents will give too slow a dry. Too much of the low boiling solvents will give a dry spray or poor flow. Within this range, however, the formulator can make one lacquer thinner considerably more blush resistant than another without too much effect on the drying time.

Many companies sell several lacquer thinners varying in price and quality. The cheaper ones are for customers who have little blushing trouble and who prefer to add retarder if necessary, as well as for those customers who need a fast dry, even for lacquer. These cheaper thinners are also for customers who buy strictly on price.

If blushing is a big headache for you, pay the few cents extra for lacquers and thinners that contain a slower solvent combination. This will not stop blushing completely, but will decrease the number of times per year you will have to worry about it.—*E. V. Goldstein.*

Instruct Your Employees Carefully, Courteously

★ Many a paint foreman has found himself "back of the eight ball" after an operation is finished or is near completion. Working with the same people day after day tends to give the impression that they know his methods and know what he expects from them. Such might be the case in many instances but there are exceptions and sometimes they can be annoying.

A good rule to follow is to explain thoroughly and simply exactly what you want, and the procedure to fol-

low. Any difficulties or problems connected with the operation should be mentioned, with suggestions to overcome same. Many times it is advisable to have an employee repeat your instructions. If you do this, sometimes you will get many a laugh (privately) from his responses.

After all, those who work for you do not, as a rule, have the educational or mechanical background and experience that you have had, and in all fairness to them, and for your own benefit, it is wise to couch your instructions to them in such a manner that there will be little possibility for an error.

Make your order clear and short. Much talking may leave the employee —in fact anyone—confused. Make it easy for him to ask you about an order, or about anything he doesn't understand. In some cases it will be safer all around for you to write your order or instructions—or even have it typed—and perhaps draw a sketch to make your point still more clear and easy to follow. Take no chances with the possibility of a mistake. Some mistakes will occur anyway, but don't let the excuse for mistake be to the effect that your instructions were not clear, not understood or not adequate.

On the finish line, it is good practice to go over the product to be painted with your finisher and highlight those parts that are most conspicuous on the finished article, so he will take more care at those points. The place where he starts and the place you end in painting an object often determines the quality of the job at different points. Give this idea a little thought.

Here is a tip to foremen finishers or painters who have inspection and quality control men to contend with: (Often their conception of a good or poor paint job may seem ludicrous from your point of view. Maybe you know this idea or even use it, but it's worth repeating for those who haven't.) Watch your inspector when he looks at a particular piece. You will notice that he looks longer and more critically at certain areas than he does at others. Those places that interest him most are the ones that you will check with your painter. However, you may have to educate the inspector as to the important phases of your product which, in turn, will make it easier for you. Remember: Quality control men and inspectors are not infallible; they're human, even as you and I.—*Al. G. Kling.*

New Detrex Plant Going up in Bowling Green, Ky.

Construction of a new million-dollar plant in Bowling Green, Ky., to house the Drycleaning Division of The Detrex Corp., manufacturer of chemicals, industrial metal-cleaning machinery and drycleaning equipment is now under way. The 100,000-sq. ft. plant is scheduled to be completed by April, 1955.

The new building will product all Detrex drycleaning machinery. Up to now, this production has been integrated with manufacture of the company's metal-cleaning equipment in the main Detrex plant on Woodrow Wilson near Oakman Boulevard, in Detroit. Increased sales have forced the company to separate its manufacturing activities.

Other Detrex subsidiary plants are located in Ashatabula, O., and Tacoma, Washington.

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Matching a Paint Sample Better and Cheaper

PROBABLY the most underpaid and the most unappreciated personnel in the paint manufacturing business are the men who formulate paints, enamels and lacquers. These men must be able, by instinct, or foresight, to take a sample of a satisfactory material the salesman has brought in from a production line, and make up a new material that will test a little better and cost a little less. The general feeling is that anyone can match a material when cost is no object, but it takes a good man to make one that will match and cost less. Such is the magic formula that is supposed to give some salesmen an opening with a prospective buyer.

Much has been said about the enormous quantity of paints and enamels that have been submitted to prospective users by the paint manufacturers, but little has been said about the materials that have been cast aside by sample men in their laboratories, because these particular formulations did not come up to all expectations.

The usual sample is probably about a quart in size because that much is necessary to give a simulated production tryout both from the user's standpoint and the paint manufacturer's needs if this particular sample is approved. If the sample is not approved, then the procedure starts all over again, with a slight or great variance in the blend of the raw materials as the case may warrant.

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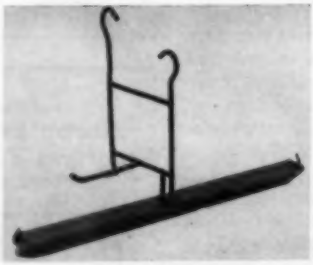

KOLENE CORPORATION
12890 WESTWOOD AVENUE
DETROIT 23, MICHIGAN
Originators and Suppliers of Kolene Chemical Processes and Equipment

nal sample is approved there may have been as many as 20 or 30 trials, which means that much material is wasted or must be reworked. In either event it is a costly process for the manufacturer. That is the reason a good progressive paint company will or should have a good competent group of men in their "sample room". Men who are not necessarily highly educated, but who have had experience in all phases of protective and decorative coatings are the ones most suitable for these positions.

The probable reason they are underpaid or unappreciated is because this department is considered "factory overhead". On the surface, these men cannot be paid on a profit basis, as other departments of the factory can, because they are not turning out materials that can be sold with an immediate profit. Yet, with an overall picture, these men are the backbone and basis of the entire plant because their efforts must be successful or there will be no work for any other department in the establishment.

In another article I will take up "Quality Control", meaning the supplying of following batches of material that perfectly match the original good one in all essential requirements. —*Ken Copeland.*

Annual Dinner of Ross 25-Year Club

The ninth annual cocktail party and dinner given by the J. O. Ross Engineering Corp., to members of its 25-Year Club and their wives was held on Thursday, November 18th at the Westbury Hotel in New York City. This year two new members were added: G. H. Brogley from the plant at New Brunswick, N. J., and G. A. Etzel of the New York office. Each one was presented with a suitably engraved wrist watch as a gift from the company to commemorate the occasion. Ross offices in New York, New Brunswick, Boston, Chicago and Montreal were represented in the total of 34 members who had been at least 25 years with the company. The gathering was welcomed by J. O. Ross, founder and Board Chairman and S. W. Fletcher, president of the firm.

THIS book contains much practical and up-to-date information on modern finishing materials, equipment, accessories, supplies, and methods. It has 320 pages, 6x9-in., divided into 31 chapters. Large legible type on high quality white paper, with generous margins and numerous illustrations, make the book easy and inviting to read. Subjects can be easily found either in the table of contents at the front of the book or in the 12 pages of alphabetically indexed subjects at the back.

Chapters I to XXI inclusive deal with materials—paints, varnishes, bleaches, lacquers, enamels, shellac, stain, filler; wrinkle and hammer effect finishes; pearl essence, waxes, flock, masking tape, etc.

The remainder of the book (Section II) contains chapters on finishing methods—spraying, flow coating, roller coating, tumbling, methods of drying, etc. Many references at the ends of chapters give credit for information supplied in articles previously published in Industrial Finishing Magazine.

The book is substantially bound between heavy stiff covers, colored in two tones of light orange and lettered in black. Author of the book is George A. Soderberg, Assistant Professor of Industrial Education, The Stout Institute in Wisconsin.

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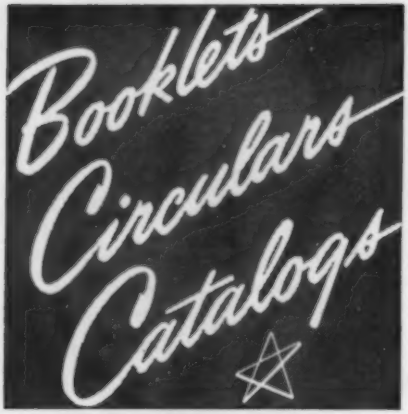

Epoxy Resin Adhesives

The Armstrong Products Co., Warsaw, Indiana, announces the publication of a 16-page brochure containing the latest technical data and price information on their epoxy resin adhesives.

These adhesives are formulated for difficult bonding problems . . . . on such materials as metals, wood, glass, ceramics, hard rubber and plastics.

Finishing Systems Booklet

A 10-page booklet about Finer Metal Finishing is available from J. O. Ross Engineering Corp., 444 Madison Ave., New York 22, N. Y. Described and illustrated are several modern installations for finishing a wide range of products, including automobiles, TV tubes, sewing machine heads, and the drying of paper and pulp.

Also included are air heaters, dryers, ovens, dust and fume control equipment, and waste heat recovery.

New Infrared Paint Baking Without Lamps or Bars

Two 2-color bulletins that describe and illustrate portable infrared paint baking equipment for use on a variety of custom and standard products are offered by Dry Clime Lamp Corp., Greensburg, Indiana.

Features of this equipment is the absence of lamps or metal bars. All sections incorporate the powerful and rugged driQuik ceramic generators which are impervious to shock, vibration and moisture. There is no bulb and socket replacement. Each generator produces a great amount of penetrating infra-red energy, which, the manufacturer claims, assures high efficiency and low operating expense.

Color Difference Meter

An instrument that measures the color difference between two objects, or the color of an object relative to a standard color, is described and illustrated in bulletin No. 156, published by Gardner Laboratory, Inc., 4723 Elm St., Bethesda 14, Md.

When writing for this bulletin, ask for a copy of the Gardner Newsletter Vol. 1, No. 6, which contains news on finish testing and laboratory equipment.

Surface Preparation Bulletin

An illustrated bulletin on surface preparation of metals before painting is now available from the Protective Coatings Division of Metalweld, Inc., Scotts Lane & Abbottsford Ave., Philadelphia 29, Penna.

This bulletin points out the importance of proper surface preparation in all coating or painting applications. It shows photographs of actual sandblast jobs and describes briefly the various methods used to produce clean, roughened, keyed surfaces that insure a good bond and a lasting finish.

Bulletin on Degreasers

A bulletin (No. 754) dealing with the features of Ramco vapor spray degreasers has recently been issued by Ramco Equipment Corp., 1373 Lafayette Ave., New York 59, N. Y.

Among the many features detailed in this bulletin are the following: Non-corrosive stainless steel troughs; lifetime corrosion-proof stainless steel condensing coils; one-bolt action doors.

A cross-section illustration of the design of Ramco vapor spray degreasers graphically points up the performance of these machines.

Finishing Room Coolers; Bulletin Offered Free

Need for specially formulated finishes for room air conditioning units, capable of withstanding extreme moisture to which interior parts are subjected, is discussed in a semi-technical bulletin issued by the Du Pont Company's Industrial Finishes Division and now available on request. Proper techniques for applying the finish are also explained.

A corrosion-resistant primer, highly impermeable to water, and unaffected in a laboratory "salt spray" test after 500 hours, has been developed. The new primer, followed by an enamel coat, will withstand 20% salt spray at 95° F. for 2000 hours.

In noting the outdoor exposure require-

ments of a cabinet, the bulletin emphasizes the finishing problems created by construction designs involving sharp edges, welded joints, louvers and corners over which it is difficult to apply an unbroken film of adequate thickness.

The following steps in the finishing system are stressed: a) Metal preparation (cleaning and phosphating; b) Selection of moisture resistant primer; c) Application of a continuous primer film of adequate thickness; d) Baking or curing primer; e) Selection of proper topcoat enamel; f) Application of topcoat enamel in a continuous film of adequate thickness; g) Baking or curing topcoat enamel.

Industrial Technical Bulletin No. 11, "Finishing Room Air Conditioning Units," may be obtained from Room 7145-D, Finishes Division, Du Pont Co., Wilmington 98, Delaware.

Filter Catalog

Catalog No. 051 (12 pages 8½x11-in.) describes and illustrates Cuno Micro-Klean filters for removing oil, moisture and scale from air lines . . . . and for many other uses.

Catalog AK 050 (8 pages 8½x11-in.) describes and illustrates Cuno Auto-Klean filters for removing, from finishing materials, skins, dirt, chips and scale before they can harm the finish. Contaminants collecting on strainer can be removed without stopping the flow of paint.

For copies of these catalogs, write Cuno Engineering Corp., Meriden, Conn.

Vacuum Metallizing Described In New Stokes Brochure

Vacuum metallizing—the depositing of a thin coating of metal by evaporation and condensation under high vacuum conditions—is a clean metal-finishing process on a wide variety of products. Without buffing or polishing, it gives a bright, lustrous, metallic finish—which may be either decorative or functional—on any base material: plastic, metal, glass, paper, or textiles.

The process is fully described and many of its applications are illustrated in a new 24-page colorful brochure, "Vacuum Metallizing", which has just been issued by F. J. Stokes Machine Co., 5500 Tabor Road, Philadelphia 20, Pa., a builder of vacuum metallizing equipment. The brochure itself is a specimen of the silver-bright finish obtained by this new process: Its cover is a sheet of acetate which has been vacuum metallized with a coating of aluminum 3 millionths of an inch thick before being bonded to the paper stock.

In the brochure are specifications for the complete range of Stokes vacuum metallizing equipment, which includes units with 24, 36, 48, and 60-in. diameter vacuum chambers.

Oakite Technical Conferences in N.Y., St. Louis and L.A.

Ninety-one technical service representatives from the eastern and Canadian divisions of Oakite Products, Inc., gathered together at New York's Statler Hotel in November to share industrial cleaning experiences and to hear company chemists describe the properties of materials recently introduced.

Features of the 3-day conferences were informal discussions in which representatives reported on problems they encountered in plants, and the sometimes unorthodox ways in which they solve them. Savings in time, labor, and money made possible by the use of Oakite-engineered cleaning equipment were discussed—one representative reporting the use of an Oakite Hot Spray Unit for flowing paint stripping solution over trucks; another, the advantages of cleaning buses and trucks with a unit which produces a heavy detergent foam; a third, the adaption of steam guns to strip rejected pieces as they move along on a conveyor line.

One hundred and twenty-five representatives from the company's other divisions took part in similar conferences in St. Louis and Los Angeles.

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Beverly Hills, California

Cothran Wins Oakite Awards

W. W. "Wes" Cothran, of Indianapolis, received the 1954 D. C. Ball Distinguished Service Award from John A. Carter, president of Oakite Products, Inc., a leading manufacturer of industrial cleaning and related materials. Mr. Cothran has represented Oakite in Indianapolis for the past 21 years.

Wes Cothran (left) receives award from John A. Carter, president of Oakite Products.

The award, named in honor of the founder of the firm, is given annually to the Oakite technical service representative who has rendered exceptional service to industry. The selection is made from the company's 225-man field organization in the United States and Canada. Mr. Cothran received the plaque at the company's Midwestern technical sales conference recently held in St. Louis.

Ind. Management Council Hears About Novelty Finishes

Leading industrial executives in the Rochester, N. Y., area became better acquainted with the potentials of modern architectural and industrial finishes as the result of a discussion on "Novelty Finishes" at a recent meeting sponsored by the Industrial Management Council of Rochester.

Principal speaker was Mr. B. F. Ames, General Sales Manager of Maas & Waldstein Co., Newark, N. J., Chicago, and Los Angeles. Mr. Ames reviewed briefly the history of organic finishes, compared some of the earlier types of coatings with those of the present day, and discussed the problems and limitations of each from the viewpoint of modern research and development.

Because of current interest in the new multicolored, textured enamels, Mr. Ames reserved a major portion of the discussion for a description in both words and action of Plextone, one of his company's contributions to the paint industry. An actual demonstration showed how a mixture of black and white enamels produced not the expected shade of gray—but an interlacing beautiful multicolored network of the original colors.

Mr. Ames explained how new formulations permit any combination of two or three colors to remain separate without merging or blending in the liquid state. Plextone's multicolored "spatter-dash" effect is produced when the paint is sprayed with ordinary spray equipment, without spray dust during application.

J. J. Vaughn Has Charge of All Sales for Star Chemical Co.

A letter from Mr. C. L. Woeltje of Star Chemical Co., Inc., Chicago, states that:

"We have placed our Mr. J. J. Vaughn in charge of all our sales. Mr. Vaughn has been in the finishing supply business for approximately 30 years and is well known throughout the stores for his efforts in helping customers in our field. Recently he has been called to several companies to conduct patching instructions and will conduct several schools within the next several months at various Universities and Boards of Education."

Co-Polymer Chemicals Adds Two Important Men

Co-Polymer Chemicals, Inc., Livonia, Mich., manufacturer of epoxy resin coatings, announces the addition of Messrs. T. R. Hopper and R. L. Hallam. Both men have college degrees in chemistry and both have had some years of experience with other well known companies.

Mr. Hopper, well versed in alkyd and epoxy resin technology joins Co-Polymer Chemicals as Technical Director. Bob Hallam was a Technical Salesman for a chemical company. Hallam, as Sales Manager, will direct the Co-Polymer Co.'s marketing activities throughout the country.

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MARCH OF DIMES
January 3-31

Plastics Industry Upward. "During the past decade, the total volume of plastic materials produced in the U. S. has multiplied fivefold. The 1953 total is estimated to be three billion pounds, worth approximately one and a half billion dollars," according to a report on "The Plastics Industry," published recently by Arthur D. Little, Inc.

In cubic footage produced, plastics are exceeded by lumber, cement, steel, and rubber; plastics in turn exceed aluminum, copper, zinc, lead and magnesium. Today, about 60% of all plastics production goes into industrial and military products, and the remaining 40% into consumer products.

Andrew Brown Co. Appoints Men for Tex., Okla., Kansas

The Andrew Brown Co. (industrial finishes) announces appointment of resident salesmen in three different cities served by its Irving, Texas plant.

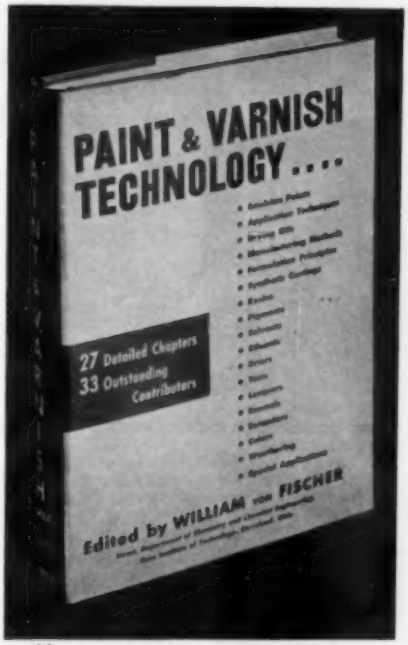
Geo. Howard; Elmer Hall; Roy Sigsbey.

George S. Howard, with 27 years' experience with a major industrial paint manufacturer, and recently specializing in aircraft finishes, will be located in Tulsa, Oklahoma, at 234 S. Indianapolis. Mr. Howard will be serving aircraft manufacturers and users of product finishes.

Elmer Hall, for the past six years associated with a major aircraft manufacturer, will serve the Wichita, Kansas area in the same capacity. His address will be 387 N. Woodlawn, Wichita, Kansas.

Roy Sigsbey, a veteran of both sales and production experience with the Andrew Brown Co., will be stationed in Houston, Texas, at 5631 S. Park Blvd.

Andrew Brown Co. manufactures Brolite aircraft, marine, industrial, and automotive finishes at Irving, Texas; Laurel, Maryland; and Los Angeles, California.



505 pages, illustrated
Price.....$8.00

This is the first comprehensive one-volume presentation of the chemistry, formulation, manufacture and applications of paints, varnishes, lacquers and enamels. There is a wealth of information on such subjects as exposure tests, viscosity, film properties, hiding power, special applications and surface preparations. A valuable addition to your personal library. Send for it NOW!

For immediate delivery, order from:

INDUSTRIAL FINISHING
1142 N. Meridian St., Indianapolis 4, Ind.

Gasway Appoints Vastine

E. W. Glaeser, President of Gasway Corp., Chicago, Ill., manufacturer of metal treating and roller coating equipment, announces the appointment of W. H. Vastine as Plant Superintendent.

Mr. Vastine has held various positions in his 15 years with Gasway, recently heading up the company's development department. In his new capacity he will retain this function in addition to having complete charge of production.

FOR SALE.

Offer way below schedule 29 Original Sherwin-Williams Drums Olive Green Enamel (Conveyor Oven). Also 8,450 gallons high-gloss Blue Synthetic Baking Enamel. ACETO CHEMICAL CO., INC., Flushing 54, New York. IN-dependence 1-4100.

LACQUER FORMULATOR WANTED.

Must have experience in formulation of nitrocellulose lacquers, synthetic enamels, vinyls, etc., for manufacturer of industrial finishes near Boston, Massachusetts. Will have complete charge of laboratory. Please give full details in first letter. Address reply to EASTERN LACQUER CORPORATION, Malden, Massachusetts.

SERVICEMAN WANTED.

An established wood and metal finish house has an opening on its service staff and is looking for an experienced wood furniture finisher. Some metal finish background would be helpful.

Please advise in first letter past ten-year connections. Length of service at each, giving name of person we may address letter of recommendation.

Advise what starting salary would be interesting. Address IF-259, care Industrial Finishing.

Have you thought of putting the bake oven on the roof? Saves space, and it's cooler in summer for employees in the plant.

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

POSITION WANTED.

Finishing supervisor of wood finishing desires position. Available after January 1st. Experienced on dining room, bedroom suites and TV cabinets. Can handle any number of personnel. Address IF-280, care Industrial Finishing.

SALESMEN WANTED.

Experienced salesmen selling lacquer and synthetic finishes. Good opportunity, open territory, good laboratory cooperation. Factory in Newark area. Apply in detail. Address IF-207, care Industrial Finishing.

SALESMAN WANTED.

Manufacturer of Lacquer and Industrial Finishes on East Coast in midst of expansion program. Several territories open for right men. Well equipped lab and plant facilities back up our salesmen. Write stating experience and territory interested in. All replies held in strictest confidence. Address IF-269, care Industrial Finishing.

INDUSTRIAL PAINT SALESMAN.

Experienced industrial finishing salesman with following is offered an excellent opportunity with well-known manufacturer. The right man will be given exceptionally liberal terms. Our people know of this ad. Your detailed reply will be held in strict confidence. Address IF-260, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

Excellent opportunity with old, aggressive concern. Complete laboratory cooperation. We will turn over a substantial number of active Industrial Finishing accounts to experienced man with a following. Territory: Philadelphia and vicinity. Liberal salary, expenses, and commission. YARNALL PAINT COMPANY, Grays Ave. West of 54th Street, Philadelphia 43, Pa.

BARGAINS IN FINISHING EQUIPMENT

DeVilbiss Degreasing and Washing Booths with Pump and CO2 Protective System.
R. C. Mahon Spray Booths with Blower, Pump, Filter, Turntable, Etc.
Barrett Centrifugal Enameler for Filwhirl or Dipspin Methods.
Binks and DeVilbiss Pressure and Mixing Tanks. Sizes 5 to 125 Gallons.
C. M. Hall Infra Red Oven, Degreasers, Blowers, Motors, Switches, etc.
Write for Particulars, or Inspect at

GENERAL TRADERS, INC. 2629 W. GRAND AVENUE, CHICAGO 12, ILLINOIS

SALES REPRESENTATIVE.

Experienced, to handle complete line of lacquer products of a quality lacquer manufacturer. Excellent opportunity for live wire. Our personnel know of this opening. Address IF-206, care Industrial Finishing.

WANTED.

Experienced salesman selling a complete line of industrial finishes. Good laboratory cooperation. Liberal commission. Replies held in strict confidence. Address IF-275, care Industrial Finishing.

SALESMAN NEEDED.

Experienced or inexperienced, to sell paints and lacquers direct to manufacturers. Several territories in Eastern states open. Excellent opportunity. Address IF-276, care Industrial Finishing.

SALES ENGINEER WANTED.

Design and sales engineer for industrial drying and baking ovens. Excellent opportunity for man capable of organizing and expanding sales of nationally advertised manufacturer. Give full resume of experience and salary requirements. Address IF-277, care Industrial Finishing.

WANTED TO BUY.

Will buy your dirty Thinners and Solvents. Send samples or letters giving approximate contents and solids. Address THE JOHANN CO., 8547 S. Ashland Ave., Chicago, Ill.

FOR SALE.

20,000 gallons top quality automotive and industrial lacquers and enamels. All colors. Samples available. Close-out price, 75 cents gallon. Midwest location. Address IF-278, care Industrial Finishing.

PAINT STRAINERS

For straining lacquers, enamels, paints. Made of heavy paper with cloth inserts in different meshes. 6-in. diameter conical shape. Write for catalog and samples. GERSON CO., Box 175, Mattapan 26, Mass.

TWO OPENINGS IN INDUSTRIAL FINISHES SALES.

One for an experienced man to build on established sales in Pennsylvania, Ohio and Western New York. Another opening for a chemist interested in sales to handle new product development and customer service from our home office. We are moving into a completely new and larger plant after 25 years in the industrial and specialty coatings field. Apply to RAFFI AND SWANSON, INC., 311 Eastern Avenue, Chelsea 50, Massachusetts.

FOR SALE.

Two furniture printing machines using 20x38-in. composition rollers; one edge printing machine, all in good condition. Good buy. CAMDEN FURNITURE CO., Camden, Arkansas.

ELECTROSTATIC SPRAY UNIT.

Scientific Electric Power unit complete with four spray guns and fluid control valves and gauges. New condition—20% under cost. Address IF-279, care Industrial Finishing.

FORD CUPS

THE VOL-U-METER COMPANY
Buffalo 16, N. Y.

Graining Machine For Sale

American Richwood Power Graining Machine complete with 3 plates, 2 gelatin rolls. Used 1 year. $1650.00

Conveyor For Sale

40' Sage Horizontal Conveyor Wire mesh belt 36" wide. Variable speed 3 to 9 F.P.M., ½ H.P. motor. Used 4 months. $ 950.00

CABINET INDUSTRIES, INC.

DANVILLE, PA. PHONE 970

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INDEX to Advertisers

Agate Lacquer Mfg. Co., Inc. 115
Allied Finishing Specialties Co. 91
American Air Filter Co. 18
American Electroplaters' Society 41
Argenta Products Co. 109
Atlas Powder Co. 69

Barker Chemical Co. 63
Beacham, William 117
Beck Equipment Co. 111
Benjamin Franklin Pt. & Varnish Co. 77
Better Finishes & Coatings, Inc. 67
Binks Mfg. Co. 22-23
Blakeslee & Co., G. S. 126
Bond Chemical Products Co. 75

Carolina Paint & Varnish Works 77
Cincinnati Varnish Co. 112
Clair Mfg. Co. 107
Classified Advertising 124-125
Clinton Co., The 71
Conforming Matrix Corp. 106
Cover, H. S. 105

Day & Co., James B. 81
DeBurgh Conveyors, Inc. 88
DeSoto Paint & Varnish Co. 77
Despatch Oven Co. 12
Detrex Corporation Third Cover
Detro Mfg. & Sales Co., Inc. 76
DeVilbiss Co., The 78-79
Dolan & Co., V. J. 5
Dow Chemical Co. 34-35
DuBois Co., Inc., The 7
Du Pont de Nemours & Co., E. I. 64-65

Egyptian Lacquer Mfg. Co., The 20
Ell-Bee Chemical Co. 85

Gardner Laboratory 115
Gasway Corporation 29
General Traders, Inc. 125
Gerson Co. 125
Grand Rapids Varnish Corp. 2

Ideal Chemical Co. 76
Illinois Paint Works 77
Industrial Chemical Products Co. 31
Industrial Filtration Co. 73
Interchemical Corporation Second Cover
I-SIS Chemicals, Inc. 93

Jensen Specialties, Inc. 21

Koch Sons, Inc., George 51
Kolene Corporation 118

Lanly Co., The 105
Lawrence-McFadden Co. 92
Lilly Varnish Co. 10-11

Mahon Co., R. C. 8-9
Makit Company, The 112
Mearl Corp. Back Cover
Miracle Paint Rejuvenator Co. 109
Morse Mfg. Co., Inc. 109

National Affiliates 77
National Chemical & Plastics Co. 1
Naz-Dar Co. 100
Newcomb-Detroit Co. 87
Nikolas & Co., G. J. 39
Nox-Rust Chemical Corp. 110

Oakite Products, Inc. 94

Pacific Paint & Varnish Co. 77
Penniman & Browne, Inc. 121
Perfection Paint & Color Co. 83
Peters-Dalton, Inc. 53
Pittsburgh Plate Glass Co. 14-15
Potter Paint Co. 6

Randloph Products Co. 43
Ransburg Electro-Coating Corp. 55
Reliance Varnish Co. Front Cover—27
Research Products Corp. 75
Reynolds Metals Co. 19
Rockford Varnish Co. 89
Ronci Machine Co. 95

Shell Chemical Corp. 13
Sherwin-Williams Co., The 16-17
Snyder Bros. Co. 112
Solvents & Chemicals Group, Inc. 33
Spee-Flo Co. 57
South Florida Test Service 105
Spruance Co., The Gilbert 59
Stanley Chemical Co. 45
Stewart-Warner Corp. 47
Syntron Co. 108
Syer, C. Raymond 121

United Lacquer Mfg. Co. 61

Varnish Products Co. 87
Vol-U-Meter Co. 85-125

Webb Products Co. 103
Wendell Mfg. Co. 106

Young Brothers Co. 101

Let's Not Refuse to Listen to Reason

★ In medicine no one antibiotic will cure all manner of ills. So too, in the finishing industry, every lacquer, synthetic and varnish has its one particular designation. Equipment also is designed for a definite purpose, even though a certain amount of over all use may be expected of it in some instances.

It should be recognized by men in the finishing industry that manufacturers of raw materials, paints and finishing equipment spend great sums of money in developing individual products. If true cognizance is not taken of this, then you are discrediting the value of modern research and product development work.

In most any meeting or gathering of finishers you hear arguments for and against various materials and types of equipment. For example, you may hear that infrared is better than convection ovens, or vice versa; or that lacquer is better than baked enamel, or vice versa, etc. Many of these gentlemen do not seem to realize that each item has its own particular special place in the finisher's scheme of things.

Let's not be so narrow or set in our ways that we will not see the merit of another point of view or another material or type of equipment. Under certain conditions it may be the best. —*Norman I. Gaynes.*

Help Polio Patients!

Join the
MARCH OF DIMES
January 3-31

Non-Skid Rug Coating. Adhesive Products Corp., 1660 Boone Ave., New York 60, N. Y., announces the development of an improved non-skid rug coating, Griptex Rug Life-Guard . . . a liquid rubber cement coating easily applied to the backs of rugs to make them permanently skid-proof.

* * *

Furniture; Where. Seven states accounted for 50% of the total furniture business in this country last year, and ten cities accounted for 30% of the total.

This was revealed recently by Clyne Crawford, President of the National Association of Furniture Manufacturers, and President of the Crawford Furniture Mfg. Corp.

In 1953, California topped the nation in sales of furniture through furniture stores, when they sold almost $105,000,000. Pennsylvania ranked second with 9% of the total, while New York was third with 8.8% of the total.

In the sale of furniture through department stores, New York ranked first and Pennsylvania was second, and together they sold almost one-third of all the furniture sold in department stores in the United States. Illinois ranked third; Ohio and California were fourth and fifth, respectively.

Sears 1954 Paint Conference

All Sears paint factory managers attended the 3-day 1954 Paint Conference held in Chicago, November 11 to 13. S. U. Greenberg, general manager of Sears paint, resin and wallpaper factories, presided over the conference with the central staff, B. W. Bours, Jr.; J. R. Dove; W. H. Lynch, B. A. Malm, G. A. Nichols and W. A. Ninnis, preparing and conducting various phases of the conference on research and development, production, personnel management, purchasing and sales.

The underlying theme of this conference was "The 1954 Story" along with future expansion plans, including the new central research and development laboratory. Plant managers, as well as technical and production personnel attended the convention the week of Nov. 15.

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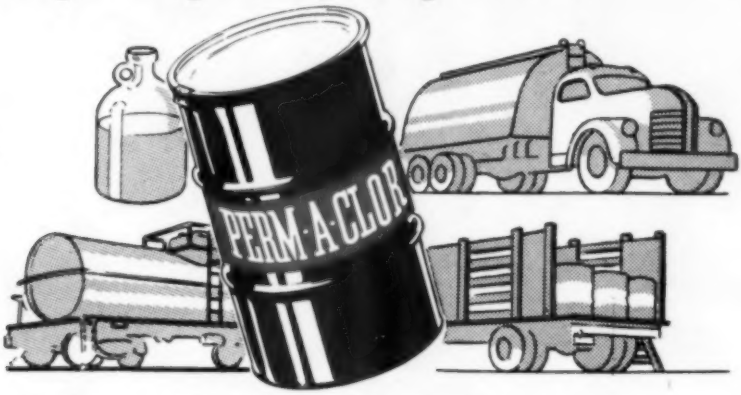

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FACTS YOU SHOULD KNOW ABOUT MAKING YOUR FINISH

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Nacromer makes an extraordinary finish out of your ordinary coating material.* Just the addition of a small amount of Nacromer makes a world of difference in the appearance. The range of effects with the use of transparent pigments or dyes is amazing.

Nacromer requires no additional labor or equipment. You use your present method of application – brush, spray or dip – simply add Nacromer (in paste form) to your present finishing material.

Nacromer can be used on practically every material. Nacromer can be added to the finishing materials used on wood, leather, metal, plastic, paper, and countless other materials. It is permanent and safe.

Nacromer is low in cost. Since the quantity added to obtain unusual beauty is so small and the cost of the Nacromer itself so low, the extra cost of the finished product is negligible.

Can you use Nacromer? Can your product benefit from a distinctive, different kind of finish? Use the handy coupon below to obtain a demonstration sample of a Nacromer finish on the type of material your product resembles. Mail it today.

* Nacromer is not suitable for use in pigmented enamels, paints, or high temperature bake-type synthetic resins containing formaldehyde. It is suitable for use over these coatings in a clear enamel or lacquer.

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☐ wood ☐ metal ☐ plastic ☐ other

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Company.....

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City..... State.....